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BIOLOGIA CENTRALI-AMERICANA.

INSECTA.

LEPIDOPTERA-HETEROCERA.

VOL. I.

(*TEXT.*)

BY

HERBERT DRUCE, F.L.S., F.Z.S.

1881–1900.

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INTRODUCTION.

THE three Volumes of the Lepidoptera Heterocera of the Central-American fauna now completed deal with twenty-eight Families of this Order of Insects. Vol. I. extends to the end of the Deltoidæ; Vol. II. to the end of the Pyralidæ, with the Supplement and Appendix; Vol. III. includes the Plates only. The Micro-Lepidoptera are being dealt with by Lord Walsingham in Volume IV.

The twenty-eight Families worked out by me may be analysed thus:—

The Sphingidæ are represented by 135 species, forty-six of which are peculiar to our region; of the remainder, fifteen have also been recorded from North America and several have a very wide range in South America.

The Castniidæ include twenty species, ten of which, so far as at present known, are peculiar to Central America; six inhabit Mexico, and one of them is recorded also from the United States. The South-American forms are much more numerous.

The tropical Ægeriidæ are very little known, but doubtless include a large number of species; Messrs. H. H. Smith and G. C. Champion collected, however, a considerable number of them, mostly in Mexico and the State of Panama. Of this family, eight genera and forty-four species are enumerated, forty-one of the latter being as yet only known from our region.

The Agaristidæ include comparatively few American forms: nineteen species are enumerated from our region, eight of these not having been obtained elsewhere; seven of the latter are described for the first time.

The Zygænidæ, now called Syntomidæ by Sir George Hampson, are very largely represented throughout tropical America. From our region fifty-nine genera, two of which are treated as new, and 208 species, with seventy new, are here recorded; of this number, 152 appear to be peculiar to Central America.

The Arctiidæ rank next to the Pyralidæ in point of numbers, 350 species, with eighty-two new, being here recorded from Central America. Out of this total, 236 appear to be peculiar to our region. Most of them are southern forms.

The Chalcosiidæ are very poorly represented in the New World. Our four species, two of which are treated as new, belong to one genus, all of them being peculiar. They appear to mimic species of other families—either Lithosiidæ or Tortricidæ.

The Lithosiidæ are fairly abundant in Central America, ranking next to the Sphingidæ in the number of species. Of the forty genera enumerated, two are characterized for the first time; and of the 119 species, fifty-three are described as new. Of the species, no fewer than 101 have not as yet been noticed from beyond our limits.

The Melameridæ are not very numerous in the region here dealt with, their headquarters being in Tropical South America, on the Upper Amazons and in Ecuador. Twenty-four genera are enumerated, four of which have been described for the first time; and of the sixty-four species, twenty are treated as new, forty-four of the whole number being peculiar. None as yet have been recorded from the United States.

The Dioptidæ and Liparidæ are represented in our region by thirty and fifty-three species respectively; the first-mentioned family by eight genera, three of which are described as new, and with twenty-one new species, twenty-seven of the total number being peculiar to Central America. The Liparidæ include fifty-three species, thirteen of which are treated as new, belonging to eighteen genera; two of the species have been recorded from the United States, while thirty-six are as yet only known from Central America. No species of Dioptidæ has been noticed from north of Mexico.

The Saturniidæ include many species, most of them being of large size. Of the nineteen genera and seventy-four species enumerated, nineteen of the latter are regarded as new; forty-seven appear to be peculiar to Central America. These insects are of very sluggish habits, and it is possible that additional species may still be discovered.

The Lasiocampidæ and Limacodidæ are both well represented, the former by 113 and the latter by sixty-four species, with forty-seven and thirty-three new respectively. The Lasiocampidæ belong to twenty-seven, and the Limacodidæ to twenty-two genera,

one of the latter being treated as new. Of the first-mentioned family eighty-seven species, and of the latter forty-nine, appear to be peculiar.

The next six families, viz. the Bombycidæ, Drepanulidæ, Psychidæ, Cossidæ, Arbelidæ, and Hepialidæ, are all very poorly represented in our region, together by twenty genera and fifty-four species, twenty-eight of the latter being described as new; forty-four of the species seem to be peculiar.

The Notodontidæ include 154 species, with thirty-two new, belonging to forty genera; eighty species are as yet only known from the region dealt with.

The Noctuidæ include no fewer than 696 species, ranking slightly in excess of the Geometridæ in point of numbers. They are distributed under 196 genera, one of which is regarded as new, as well as 226 of the species. Of the 696 species, more than half (381) appear to be peculiar to Central America; many of them have a very wide range in South America, extending as far south as Rio Janeiro.

The Deltoidæ are very rich in species, being nearly equal to the Zygænidæ in this respect. Sixty-one genera, twenty-four of which are characterized for the first time, and 206 species, with 128 new, are enumerated; of the species, no fewer than 147 seem to be peculiar. The moths belonging to this family are almost all found in the forests, and we have to thank Messrs. G. C. Champion and H. H. Smith for most of the specimens described. They are overlooked by most collectors.

The Euschemidæ and Uraniidæ together include only five genera and twenty-two species, one of each being described as new; eleven of the species have not been recorded from elsewhere. The Uraniidæ, however, number some large and conspicuous forms.

The Geometridæ, as already stated, rank next to the Noctuidæ as regards the number of species, but the number of genera is very much less. Of the latter, 143 (as against 196 Noctuidæ), with three new, are enumerated. These include 689 species, more than half of them (355) being treated as new; 409 of them, so far as at present known, are peculiar to Central America.

The Siculidæ is a family of limited extent, and the Central-American forms call for

no special remark. Seven genera and nineteen species are noticed, six of the latter being described as new; five of the species are peculiar.

The Pyralidæ are extremely numerous in Central America, ranking next to the Geometridæ in number. 502 species, with 145 new, are enumerated, all referred to previously characterized genera; the number of the latter, 198, is inordinately large, and no doubt will have to be reduced. Of the total number of species, 224 are as yet only known from the region under investigation.

The total number of species of the above-mentioned families here enumerated is 3639, belonging to 1026 genera, and forty additional species are noticed in the Appendix, making the total 3679.

Forty-one genera and 1312 species are treated as new; and to the latter number must be added 238 others, described by me elsewhere, from material got together by our Editors and myself, but figured in this work, making the total number of new species dealt with by me 1550. Nearly two-thirds (2189) of the species are, so far as at present known, peculiar to Central America. The 101 plates contain 2273 figures, representing upwards of 1900 species.

The following summary (p. ix) will show at a glance the total number of genera and species of each of the families of Heterocera treated by me in this work, exclusive of the forty species enumerated in the Appendix. The last column gives the approximate number of species peculiar to Central America.

To give some slight idea of the great richness of the region under investigation as compared with that of the only tropical fauna that has been worked out to the same extent, viz. that of India, Ceylon, Burmah, and the Andaman Islands, by Sir George Hampson, it may be noted that from that vast region he enumerates 5618 as against our 3639 species, which is only 1979 more than we have recorded from Central America, a country not nearly so well known and very much less in area. I have very little doubt that when Yucatan and the northern and north-western parts of Mexico have been explored the number of species will be greatly increased, even if they do not exceed the total given in the 'Fauna of India.'

With regard to the distribution of the Central-American Heterocera, it is almost impossible to give any generalizations, because we know so little of the species from

the adjacent parts of South America; but I think it may safely be said that their affinities are almost entirely South-American; the few North-American forms that do occur can hardly be looked upon as more than stragglers from the Southern United States, and those mostly belonging to genera that are widely distributed.

To show how greatly our knowledge of these insects has increased during the progress of this work, it may be stated that in 1880, before this enumeration was commenced, I

	Total number of genera.	New genera.	Total number of species.	New species.	Species peculiar to Central America.
Sphingidæ	35	1	135	6	46
Castniidæ	3	..	20	1	10
Ægeriidæ	8	..	44	16	41
Agaristidæ	11	..	19	7	8
Zygænidæ	59	2	208	70	152
Arctiidæ	81	..	350	82	236
Chalcosiidæ	1	..	4	2	4
Lithosiidæ	40	2	119	53	101
Melameridæ	24	4	64	20	44
Dioptidæ	8	3	30	21	27
Liparidæ	18	..	53	13	36
Saturniidæ	19	..	74	19	47
Lasiocampidæ	27	..	113	47	87
Limacodidæ	22	1	64	33	49
Bombycidæ	5	..	12	9	8
Drepanulidæ	4	..	13	6	11
Psychidæ	3	..	3	1	2
Cossidæ	4	..	9	2	6
Arbelidæ	1	..	5	5	5
Hepialidæ	3	..	12	5	12
Notodontidæ	40	..	154	32	80
Noctuidæ	196	1	696	226	381
Deltoidæ	61	24	206	128	147
Euschemidæ	2	..	4	1	2
Uraniidæ	3	..	18	1	9
Geometridæ	143	3	689	355	409
Siculidæ	7	..	19	6	5
Pyralidæ	198	..	502	145	224
	1026	41	3639	1312	2189

made a list of the Heterocera recorded from Central America, and the number of species was then considerably under 400.

The arrangement followed is mostly that of Guenée and Walker, that of the Sphingidæ being in accordance with Dr. Butler's Monograph.

The immense amount of material examined has been contributed as follows:—From Mexico, by Messrs. Becker, Boucard, Elwes, Flohr, Gaumer, Godman, Höge, Morrison, Rümeli, H. H. Smith, and Trujillo: Morrison's specimens were entirely from the northern border, those of Becker from Durango, and those of Gaumer from Yucatan. From British Honduras, by Sir Alfred Moloney, and Messrs. Blancaneaux and Whitely. From Guatemala, by Messrs. Champion, Conradt (through Dr. Staudinger), and Rodriguez. From Nicaragua, by Messrs. Belt and Richardson. From Costa Rica, by Messrs. Rogers, Underwood, and Van Patten. From Panama, by Messrs. Arcé, Champion, Ribbe, Salvin, and J. J. Walker.

In addition to the specimens received from these collectors, Mr. Schaus has been good enough to place nearly the whole of his very extensive series of Mexican Heterocera at my disposal, and Dr. Staudinger has lent us from time to time the numerous insects collected for him in Chiriqui by E. Trötsch.

My best thanks are due to the Editors for their great assistance in procuring so many collections for the purposes of this work, which has occupied a large part of my leisure time during the past twenty years.

H. D.

March 1900.

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* *Pachygonia ericea* on the Plate.

† *Chœrocampa cyrene* on the Plate.

‡ *Amphonyx rivularis* on the Plate.

§ *Clanis imperialis* on the Plate.

‖ *Ægeria sallustiformis* on the Plate.

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* *Aglaope guatemalena* on the Plate.

† *Procris cenniana* on the Plate.

‡ *Procris anacreon* on the Plate.

§ *Homœocera azia* on the Plate.

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‡ *Pterygopterus superbus* on the Plate.

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* *Composia olympia* on the Plate.

† Fig. 25 is incorrectly marked ♂ on the Plate.

‡ *Gonophæla morrisoni* on the Plate.

§ *Tunia cingulata* on the Plate.

‖ *Tunia sangala* on the Plate.

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* *Lepidule medea* on the Plate.

† *Melania phelina* on the Plate.

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Merocteua zygialis	C.	13	ii. 551
Aphytoceros lybialis	LX.	29	ii. 213
—— senahuensis, ♀	LXI.	1	ii. 214
—— samarialis	C.	14	ii. 551
Terastia meticulosalis	LXI.	2	ii. 215
Megastes praxiteles, ♂	LXI.	3	ii. 215
—— ——, ♀	LXI.	4	ii. 215
Atheropoda remusalis	LXI.	5	ii. 218
—— pontealis	LXI.	6	ii. 218
Polygrammodes sanguinalis	LXI.	7	ii. 218
—— cyamon, ♂	C.	15	ii. 552
Pachynoa crœsus	LXI.	8	ii. 219
—— flavidalis, ♂	LXI.	9	ii. 220
—— ——, ♀	LXI.	10	ii. 220
—— cyclades, ♂	LXI.	12	ii. 220
—— ——, ♀	LXI.	13	ii. 220
Pachyzancla cynoalis, ♂	LXI.	11	ii. 221
—— semilaniata	C.	16	ii. 552
Zunacetha angulifera	LXI.	14	ii. 222
—— bugabensis	LXI.	15	ii. 223
Salbia xiphialis	LXI.	16	ii. 223
—— lauralis, ♀	LXI.	17	ii. 224
—— lotanalis, ♀	C.	17	ii. 553
Sarothronota (?) citrinalis	LXI.	18	ii. 224
Erilusa cœlivitta, ♂	LXI.	19	ii. 226
—— croceiceps, ♂	LXI.	20	ii. 226
—— purpuralis, ♀	LXI.	21	ii. 226
Acridura metallica, ♂	LXI.	22	ii. 227
—— prochyta, ♀	LXI.	23	ii. 227
—— dædala, ♂	LXI.	24	ii. 227
—— (?) hadriana	LXI.	25	ii. 227
Margaronia innotata	LXI.	26	ii. 228
Eudioptis praxialis	LXI.	28	ii. 231
—— cumalis	LXI.	27	ii. 232
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—— exclusalis	LXI.	30	ii. 233
Cliniodes opalalis	LXII.	1	ii. 235

* *Ugra subrosealis* on the Plate.

† *Condylorrhiza sublutalis* on the Plate.

	Plate.	Fig.	Page.
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—— ——, ♀	LXI.	32	ii. 235
—— underwoodi, ♀	C.	18	ii. 553
Carbaca prognealis	LXII.	2	ii. 235
Tyspanodes suasalis, ♂	C.	21	ii. 553
Agathodes monstralis, ♂	LXII.	5	ii. 236
Agrotera marucalis, ♂	LXII.	3	ii. 237
—— calanticalis	LXII.	4	ii. 237
—— darsanalis	LXII.	6	ii. 238
Pterygisus apygalis *	LXII.	7	ii. 238, 554
—— rhealis	LXII.	9	ii. 239
Pantographa cybelealis, ♂	LXII.	8	ii. 240
—— limata †, ♂	LXII.	10	ii. 240, 554
—— pharaxalis, ♂	LXII.	12	ii. 240
—— idmonalis	LXII.	11	ii. 240
—— gorgonalis	LXII.	13	ii. 240
—— expansalis ‡	LXII.	14	ii. 241, 554
Sathria minnithalis, ♂	LXII.	15	ii. 242
Ceratoclasis lupa	C.	20	ii. 554
Samea (?) asadias	C.	19	ii. 555
Mimorista salaconalis	LXII.	16	ii. 245, 555
Ledereria randalis	LXII.	17	ii. 250
Conchylodes salamisalis	LXII.	19	ii. 251
—— (?) sabatalis	LXII.	18	ii. 252
Homophysa falcatalis	C.	22	ii. 555
—— remellalis	C.	24	ii. 556
—— citronalis	C.	27	ii. 556
Omiodes roxonalis	LXII.	20	ii. 253
—— milvalis	LXII.	21	ii. 253
Pionea fusculalis	C.	25	ii. 556
—— phæalis, ♂	CI.	1	ii. 556
—— ——, ♀	CI.	2	ii. 556
—— antigastridia	C.	26	ii. 556
—— asychanalis	CI.	3	ii. 557
—— belialis	CI.	4	ii. 557
—— thyanalis	CI.	5	ii. 557
—— chanesalis	CI.	8	ii. 557
—— tisiasalis	CI.	6	ii. 557
—— aponianalis	CI.	7	ii. 557
—— crambialis	CI.	9	ii. 558
Bocchoris chalcidiscalis	C.	23	ii. 558
Phostria (?) cryptalis	LXII.	22	ii. 255
—— (?) cyrisalis, ♂	LXII.	23	ii. 255
Hedylepta (?) mizaralis, ♂	CI.	10	ii. 558
—— lehialis	CI.	11	ii. 558
Epichronistis dadalis	LXII.	24	ii. 258
—— (?) cylonalis	LXII.	25	ii. 258, 559
—— mellinialis	CI.	12	ii. 559
Syngamia tremulalis	CI.	15	ii. 559
Ædiodes (?) unipunctalis	LXII.	26	ii. 261
Filodes pucilla	LXII.	27	ii. 263
Rhectosemia argentipunctalis	LXII.	28, 29	ii. 264
Phryganodes omphalobasis	CI.	14	ii. 559
Ischnurges eudamidasalis	CI.	13	ii. 560
—— bagoasalis	CI.	15	ii. 560
Diasemia erubescens	CI.	17	ii. 560
—— (?) minutalis	CI.	18	ii. 560
Cybolomia ossealis, ♀	CI.	19	ii. 560
Leucochroma prosalis	LXII.	30	ii. 266
—— saltigalis	LXII.	31	ii. 266
—— (?) ruscialis	LXIII.	1	ii. 266
Glaphyria (?) ausonialis	CI.	20	ii. 561
Blepharomastix gigantalis	LXIII.	5	ii. 269
—— vilialis §	LXIII.	2	ii. 269, 561
—— ranalis ‖	LXIII.	3	ii. 269, 561
—— romalis, ♂	LXIII.	4	ii. 270
—— (?) demantrialis, ♂	LXIII.	6	ii. 270
—— stenialis ¶, ♂	LXIII.	7	ii. 270, 561
—— coatepecensis	LXIII.	8	ii. 270
—— crusalis	LXIII.	9	ii. 271
Stenia bufalis	CI.	21	ii. 561
Eurrhyparodes splendens	LXIII.	10	ii. 271
Cataclysta premalis	LXIII.	11	ii. 272
—— æalis	LXIII.	12	ii. 272
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—— romanalis	LXIII.	14	ii. 273
—— cumalis	LXIII.	15	ii. 273
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—— darsanialis	LXIII.	17	ii. 274
—— cronialis, ♂	LXIII.	18	ii. 274
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—— pomperialis	LXIII.	24	ii. 276
—— (?) dematrialis	LXIII.	25	ii. 276
—— (?) procrealis	LXIII.	26	ii. 276
—— (?) dendalis	LXIII.	27	ii. 277
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Scoparia albifrons	LXIV.	2	ii. 278

* *Pterygisus appialis* on the Plate.
† *Pantographa suffusalis* on the Plate.
‡ *Pantographa orsonalis* on the Plate.
§ *Blepharomastix pulverulalis* on the Plate.
‖ *Blepharomastix datisalis* on the Plate.
¶ *Blepharomastix sagralis* on the Plate.
** *Cataclysta divulsalis* on the Plate.
†† *Hydrocampa decetialis* on the Plate.
‡‡ *Paraponyx bosoralis* on the Plate.

	Plate.	Fig.	Page.
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—— sabura	LXIV.	4	ii. 279
—— albipunctata	CI.	22	ii. 563
Pycnulia sylea	CI.	24	ii. 564
Acrobasis pachylepidella, ♂	CI.	25	ii. 564
Dioryctria zimmermanni	CI.	26	ii. 564
Nephopteryx fuscifrontella	LXIV.	5	ii. 282
—— drucei	LXIV.	6	ii. 282
Laodamia guatemalella	LXIV.	7	ii. 282
Euzophera phryganoides	LXIV.	8	ii. 285
Homœosoma soraella	CI.	28	ii. 565
Trachonitis lucidalis	LXIV.	9	ii. 286
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—— expansellus	LXIV.	18	ii. 291
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ERRATA ET CORRIGENDA.

VOLUME I.

Page	Line	
3	7	*after* **lusca** *insert* (Tab. III. fig. 5.)
3	17	*after* **restituta** *insert* (Tab. III. fig. 6.)
4	8	*for* **hoppferi** *read* **hopfferi.**
4	9	for *hoppferi* read *hopfferi.*
8	20	for *tripolemus* read *triptolemus.*
9	19	*for* 4 *read* 6.
17	25	for *Macrosilia* read *Macrosila.*
24	27	*after* **veraguana** *insert* (Tab. IV. fig. 4.)
26	12, 14, 16	for *atymnus* read *atymnius.*
47	9	for *Aclytea* read *Aclytia.*
65	7	for *fasciolata* read *fasciolatum.*
140	16	*for* VIII. *read* XIII.
179	22	*after* **zozine** *insert* sp. n.
181	10	for *arminia* read *armidia.*
213	10	*for* Laparidæ *read* Liparidæ.
262, 263	...	The name PHILOCHRYSA should be used for **E. timais** (Cram.), EUTHISANOTIA having been adopted for a different genus in Vol. II. p. 328.
338	2, 6	for *Chytorhyza* read *Chytoryza.*
367	36	for *Rhamphia* read *Ramphia.*
396	26	*for* **AMPHIGONIIDÆ** *read AMPHIGONIINÆ.*
398	6	*for* **THERMESIIDÆ** read *THERMESIINÆ.*

VOLUME II.

Page	Line	
28	13	for *platyptera* read *platypterata.*
102	8	for *punctata* read *punctaria.*
211	4	for *D.* read *B.*
265	...	The genus ASCIODES has by mistake been entered twice, on pp. 241 and 265.
265	25	*for* 1 *read* 2.
267	10	Erase the reference to the genus *Homophysa.*
268	...	The genus ASOPIA has by mistake been entered twice, on pp. 202 and 268.
268	19	*for* 1 *read* 2.
293	18	Erase the reference to *M. quadristigmalis*, Guen.
295	19	*Erase the words* sp. n.
333	14	for *sauleyi* read *saulcyi.*
337	24	for *ferra* read *ferrea.*
340	13, 14	for *A.* read *H.*
368	...	The genus RHIPHA has by mistake been entered twice, in Vol. I. p. 79, and in Vol. II. p. 368.
368	23	*for* 1 *read* 2.
379	21	*for* **obscurator** read **obscurata.**
379	28	for *obscurator* read *obscurata.*
389	25	for *Cyenia* read *Cycnia.*
394	12	Erase the reference to *S. bolteri.*
403	2	*for* **comformis** *read* **conformis.**
403	16	*for* 6 *read* 7.
404	1	*for* EUSTIXIA *read* EUSTIXIS: the genus EUSTIXIA is entered on p. 563.
404	2	for *Eustixia* read *Eustixis, and for* ii. *read* iii.
404	4	*for* **Eustixia** *read* **Eustixis.**
405	...	The genus EPIDESMA has by mistake been entered twice, on pp. 360 and 405.
410	...	The genus BITURIX has by mistake been entered twice, on pp. 382 and 410.
421	25	for *lavandera* read *lavendera.*
442	...	The genus METRAGA has by mistake been entered twice, in Vol. I. p. 209, and in Vol. II. p. 442.
455	13	*for* figg. *read* fig.
473	5	for *Leucanea* read *Leucania.*
513	21	*for* **malitissa** *read* **malitiosa.**
539	1	*for* 13 *read* 14.
549	23	*for* 3 *read* 2.
550	19	*for* 6 *read* 5.
550	26	*for* 7 *read* 6.
552	8	*for* 1 *read* 2.
552	20	Erase the reference to **P. silicalis,** and transfer the localities mentioned to **Condylorrhiza silicalis,** on p. 551.

BIOLOGIA CENTRALI-AMERICANA.

ZOOLOGIA.

Class INSECTA.

Order LEPIDOPTERA.

Suborder HETEROCERA.

Fam. SPHINGIDÆ*.

Subfam. *MACROGLOSSINÆ.*

AELLOPUS.

Aellopus, Hübner, Verz. bek. Schmett. p. 131 (1816).

Six species have been included in this genus, whereof four belong to South America and two to West Africa. It is doubtful, however, if the African forms are really congeneric, their narrow elongated bodies being very different from what is found in the American representatives of the genus. Of these latter two, or at most three, of the species are really distinct, the others being of doubtful value.

1. Aellopus tantalus.

Sphinx tantalus, Linn. Mus. Lud. Ulr. p. 361[1].
Aellopos tantalus, Hübn. Samml. ex. Schmett. ii. t. 157. f. 1–4[2].
Macroglossa tantalus, Walk. Cat. viii. p. 88[3].
Sphinx titan, Cr. Pap. Ex. ii. p. 73, t. 142. f. F[4].
Macroglossa annulosum, Sw. Zool. Ill. iii. t. 132. f. 1[5].

Hab. MEXICO[3], Vera Cruz (*mus. Oxf.*), Cordova (*Rümeli*), Mazatlan (*H. Edwards*), Valladolid, Yucatan (*Gaumer*); BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA, Dueñas (*F. D. G. & O. S., mus. Oxf.*), Zapote, San Gerónimo, Coban (*Champion*); PANAMA (*Boucard, mus. D.*).—ANTILLES, Jamaica[3], San Domingo[3], &c.; COLOMBIA, Santa Marta (*mus. D.*); ECUADOR (*mus. D.*); VENEZUELA[3]; GUIANA, Surinam[4]; AMAZONS, Para[3]; BRAZIL[5], Rio (*mus. D.*).

* In the arrangement of this family I have in a great measure followed that propounded by Mr. Butler in his paper on the Sphingidæ (Trans. Z. S. ix. p. 511 *et seqq.*).

This species seems to have an uninterrupted range over a very wide area. I am unable to detect any tangible specific characters whereby to separate the large series of specimens before me. It remains a question whether the insect described by Cramer as *Sphinx fadus* is really distinct from *A. tantalus*. The figure, it is true, shows no abdominal white band on the upper surface; but this, I think with Boisduval, is probably due to the greasy state of Cramer's specimen. I have a Mexican example in this condition, which is not separable from others in the normal state. Mr. Butler keeps the two insects separate, but gives no reasons for so doing. Boisduval, in his latest work on the Sphingidæ (Sp. Gén. des Lép. Hét. i. p. 358, 1874), was strongly of the opinion that *Macroglossa tantalus*, *M. titan*, and *M. fadus* were only varieties of a single species.

EUPYRRHOGLOSSUM.

Eupyrrhoglossum, Grote, Pr. Ent. Soc. Phil. v. p. 42 (1865).

A purely Neotropical genus containing two species, both of which are found within our fauna.

1. **Eupyrrhoglossum sagra.**

Macroglossum sagra, Poey, Cent. Lep. dec. 2 [1] (fide Butler).
Macroglossa sagra, Walk. Cat. viii. p. 89 [2]; Boisd. Sp. Gén. des Lép. Hét. i. p. 360 [3].
Eupyrrhoglossum sagra, Butl. Trans. Z. S. ix. p. 531 [4].

Hab. Panama, Chiriqui (*Arcé, mus. D.*).—Cuba [1 3]; Colombia [2]; Ecuador (*mus. D.*); Upper Amazons (*mus. D.*); Brazil [2 3].

A wide-ranging southern species, of which I have as yet seen only a single Central-American specimen, which was taken near Chiriqui.

2. **Eupyrrhoglossum ceculus.**

Sphinx ceculus, Cr. Pap. Ex. ii. p. 80, t. 146. f. G [1].
Macroglossa ceculus, Walk. Cat. viii. p. 88 [2]; Boisd. Sp. Gén. des Lép. Hét. i. p. 359 [3].
Macroglossum fasciatum, Sw. Zool. Ill. iii. t. 132. f. 2 [4].
Macroglossa corvus, Boisd. Lép. Guat. p. 66 [5]?

Hab. Mexico [2]; Guatemala, El Jicaro and Cubilguitz (*Champion*); Nicaragua [5]; Panama, Chiriqui (*Arcé, mus. D.*).—Colombia [3]; Ecuador (*mus. D.*); Trinidad (*mus. D.*); Guiana, Surinam [1], Cayenne [3]; Amazons, Para [2]; Brazil [2 3 4].

A species closely allied to the last, but easily recognized by the greater width of the yellow fascia on the secondaries and the absence of the yellow margin. *M. corvus* is a name proposed by Boisduval for a specimen said to have come from Nicaragua [5]. I believe it belongs to this species, but am not certain on the point.

PERIGONIA.

Perigonia, Walker, Cat. Het. viii. p. 100 (1856).

Mr. Butler enumerates nine species of this genus, of which *P. ilus* is but a synonym of *P. lusca*; and others he names seem to rest on very doubtful authority. Three closely allied species are found within our region, whereof two have an extensive range in South America, the third being also found in Cuba.

1. Perigonia lusca.

Sphinx lusca, Fabr. Sp. Ins. ii. p. 140[1].
Perigonia lusca, Butl. Trans. Z. S. ix. p. 532[2].
Perigonia interrupta, Walk. Cat. xxxi. Suppl. p. 29[3].
Perigonia ilus, Boisd. Lép. Guat. p. 66[4].

Hab. MEXICO[3]; GUATEMALA[3] (*Sallé*); NICARAGUA, Chontales (*Belt*); PANAMA (*Boucard, mus. D.*).—ANTILLES, San Domingo[3]; COLOMBIA (*mus. D.*); ECUADOR (*mus. D.*).

According to Mr. Butler[2] *P. interrupta*, Walk.[3], belongs here. As regards *P. ilus*, Boisd., I have, through Mons. C. Oberthür's kindness, had an opportunity of examining the type, and have no hesitation in referring it to *P. lusca.*

2. Perigonia restituta.

Panacra restituta, Walk. Cat. xxxi. Suppl. p. 32[1].
Perigonia restituta, Butl. Trans. Z. S. ix. p. 532[2].

Hab. MEXICO (*Hartweg*[1 2]), Cordova (*Rümeli*).—VENEZUELA; ECUADOR (*mus. D.*); AMAZONS, Para[2].

In this species, of which I have examined the type, the median yellow spot of the secondaries, so conspicuous in both *P. lusca* and *P. stulta*, is much reduced in size, being a small round spot instead of a band as in the allied species. No specimen has yet been sent from any part of Central America south of Mexico.

3. Perigonia stulta.

Perigonia stulta, Herr.-Sch. Samml. aussereur. Schmett. f. 106[1]; Schmett. Ins. Cuba, p. 20[2].

Hab. PANAMA, Chiriqui (*Arcé, mus. D.*).—CUBA[2].

A single specimen in my collection agrees with Herrich-Schäffer's figure of this species[1]. The orange belt of the secondaries extends along the whole costal half from the base to the apex, thus differing from *P. lusca* and *P. restituta.*

PACHYGONIA.

Pachygonia, Felder, Reise d. Nov. Zool. ii. Lep. Th. iv. t. 75 (1868).

This genus contains about five species, of which three occur in Central America—two

being peculiar to the State of Panama, and one ranging to Para at the mouth of the Amazons. All are Neotropical.

1. **Pachygonia subhamata.**

Perigonia subhamata, Walk. Cat. viii. p. 102[1].
Pachygonia caliginosa, Feld. Reise d. Nov. Zool. ii. Lep. Th. iv. t. 75. f. 10[2].

Hab. MEXICO[1] (*mus. Oxf.*), Cordova (*Rümeli*); PANAMA, Chiriqui (*mus. Staudinger*). —VENEZUELA[1]; AMAZONS[2], Para[1].

2. **Pachygonia hoppferi.** (Tab. I. fig. 1.)

Pachygonia hoppferi, Staud. Verh. zool.-bot. Ges. Wien, 1875, p. 118[1].

Hab. PANAMA, Chiriqui (*Ribbe, Arcé, Mus. D.*).

Differs from *P. subhamata* in having the pink bands on the secondaries more distinct and wider apart.

3. **Pachygonia ribbei,** sp. n. (Tab. II. fig. 2.)

Brown, paler beneath: primaries glossy greyish brown from the base to beyond the middle, several indistinct ochreous streaks along the costal margin; an ochreous spot close to the apex, but not touching the costal margin: secondaries dark brown, paler at the base, and slightly ochreous at the anal angle: head, thorax, and abdomen brown above and pale ochreous beneath. Exp. $2\frac{1}{2}$ inches.

Hab. PANAMA, Chiriqui (*Ribbe*).

Differs from the other species of this genus in having the bands of the secondaries smaller and duller.

UNZELA.

Unzela, Walker, Cat. viii. p. 161 (1856).

One species only of this genus is as yet described. It has a very wide distribution, ranging from North America to South-east Brazil.

1. **Unzela japix.**

Sphinx japix, Cr. Pap. Ex. i. t. 87. f. C[1].
Unzela japis, Walk. Cat. viii. p. 162[2]; Butl. Trans. Z. S. ix. p. 535[3].
Tylognathus japys, Boisd. Sp. Gén. des Lép. Hét. i. p. 293[4].

Hab. UNITED STATES[1 2].—PANAMA, Chiriqui (*Ribbe*), Rio Chagres (*mus. Staudinger*).— GUIANA, Surinam[4]; BRAZIL[4], Rio[2 3].

I have only seen one specimen of this species from Central America, which was taken near Chiriqui.

PROSERPINUS.

Proserpinus, Hübner, Verz. bek. Schmett. p. 132 (1816).

This genus contains five species, of which one occurs in Central America, two in North America, and two in the south of Europe. The species are all small.

1. **Proserpinus terlooi.**

Proserpinus terlooi, H. Edwards, Proc. Cal. Acad. Sci. 1875, p. 4[1].
Pterogon terlooii, Strecker, Lep. Rhop. et Het. i. p. 125, t. xiv. f. 3[2].

Hab. MEXICO, Mazatlan[1 2] (*Baron Terloo*).

This species is closely allied to the European *P. proserpina*, Pall. Mr. Henry Edwards informs me that two specimens of this species are in the collection of Dr. H. Behr, of San Francisco. These were taken in the Sierra Madre, in the State of Sinaloa, by the late Baron Terloo.

CALLIOMMA.

Calliomma, Walker, Cat. viii. p. 108 (1856).

About eight species are placed in this genus by Mr. Butler, of which three occur in Central America, the others being found only in South America.

1. **Calliomma licastus.**

Sphinx licastus, Cr. Pap. Ex. iv. t. 381. f. A[1].
Calliomma licastus, Walk. Cat. viii. p. 110[2].
Calliomma parce, Lucas in R. de la Sagra's Hist. Cuba, vii. p. 291, t. 17. f. 2[3] (ex Fabr.).

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*mus. Staudinger*).—ANTILLES[2], Cuba[3]; ECUADOR (*mus. D.*); GUIANA, Surinam[1].

This species has a wide range, and, so far as I can see, does not vary to any extent. Mr. Butler has enumerated three species in his Catalogue closely allied to *C. licastus*; but I think them of very doubtful value. The specimens from Ecuador in my collection do not vary in the least from the Central-American ones.

2. **Calliomma thorates.**

Oreus thorates, Hübn. Zutr. ff. 525, 526[1].
Pergesa thorates, Walk. Cat. viii. p. 151[2].
Calliomma thorates, Butl. Trans. Z. S. ix. p. 540[3].

Hab. MEXICO, Oaxaca[2 3]; GUATEMALA, Polochic valley (*F. D. G. & O. S., mus. Oxf.*) PANAMA, Chiriqui (*Arcé, mus. D.*).—ANTILLES[1], Haiti[2], St. Vincent[3], &c.; COLOMBIA[3]; ECUADOR (*mus. D.*)

I have a large number of examples before me of this wide-ranging species; the specimens from Ecuador are generally smaller than those from Central America. I have not yet seen an example from any locality south of Ecuador.

3. **Calliomma adalia,** sp. n. (Tab. II. fig. 1.)

Primaries olive-green, crossed from the costal margin to the inner margin by five brown lines, the first two near the base, the third beyond the end of the cell, the fourth a waved line close to the third, the fifth nearest the outer margin; a short waved line from the apex to the middle of the fifth line; an indistinct brownish patch near the anal angle, extending upwards along the outer margin: secondaries dark brown, abdominal margin and anal angle greenish; fringes white: head, thorax, and abdomen olive-green, beneath pale ochreous. Exp. 2·5 in.

Hab. PANAMA, Chiriqui (*mus. Staudinger*).

Very distinct from any other species.

ENYO.

Enyo, Hübner, Verz. bek. Schmett. p. 132 (1816).

This genus is allied to the preceding, and differs principally by the shorter and more robust body and dentated margins of the wings. With one exception, it is a purely Neotropical genus. I much doubt, however, *E. cinnamomea*, Herr.-Schäff., described from Australia, being really from that region.

1. **Enyo lugubris.**

Sphinx lugubris, Linn. Mant. p. 537; Drury, Ill. Ex. i. p. 61, t. 28. f. 2[1]; Abbot & Smith, Nat. Hist. Lep. Ins. Georg. i. p. 59, t. 30[2].

Enyo lugubris, Hübn. Zutr. ff. 595, 596; Walk. Cat. viii. p. 113[3].

Sphinx camertus, Cr. Pap. Ex. iii. t. 225. f. A[4].

Hab. NORTH AMERICA[2].—MEXICO, Mazatlan (*H. Edwards*), Cordova (*Rümeli*); GUATEMALA (*F. D. G. & O. S., mus. Oxf.*), Coban (*Champion*); HONDURAS[3]; NICARAGUA, Chontales (*Belt, mus. Oxf.*); PANAMA, Chiriqui (*Ribbé*).—ANTILLES[1], Cuba (*mus. D.*), Haiti[3]; VENEZUELA[3]; COLOMBIA[3]; ECUADOR (*mus. D.*); GUIANA, Surinam[4]; AMAZONS, Santarem[3]; BRAZIL, Rio[3].

This species seems to have an immense range, from Georgia to South Brazil. I cannot detect any good specific characters whereby to separate the large series of specimens before me. Mr. Butler considers it doubtful whether *E. camertus* is distinct from *E. lugubris*. I do not think there can be any doubt that they belong to but one species. Specimens in my collection from Cuba are very much smaller, but in other respects do not differ in any way from the type. The redder tint mentioned by Mr. Butler as peculiar to *E. camertus* occurs in specimens from many of the above localities. I do not think that any value can be attached to it.

2. **Enyo danum.**

Sphinx danum, Cr. Pap. Ex. iii. t. 225. f. B [1].
Thyreus danum, Boisd. Lép. Guat. p. 67 [2].
Enyo danum, Butl. Trans. Z. S. ix. p. 541 [3].

Hab. GUATEMALA [2]; PANAMA, Chiriqui (*mus. Staudinger*).—ANTILLES, San Domingo [3]; ECUADOR (*mus. D.*); PERU [3]; BOLIVIA [3]; GUIANA, Surinam [1].

This is a well-marked species, easily distinguished from its allies by the pale yellow patch on the abdominal margin of the secondaries.

3. **Enyo gorgon.**

Sphinx gorgon, Cr. Pap. Ex. t. 142. f. E [1].
Sphinx lyctus, Cr. Pap. Ex. t. 225. f. F [2].
Thyreus lyctus, Boisd. Lép. Guat. p. 68 [3].
Enyo lyctus, Walk. Cat. viii. p. 115 [4].

Hab. MEXICO (*mus. Oxf.*); BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); NICARAGUA [3]; PANAMA, Chiriqui (*Arcé, mus. D.*).—ECUADOR (*mus. D.*); GUIANA, Surinam [1 2]; BRAZIL [4].

ALEURON.

Aleuron, Boisduval, Lép. Guat. p. 71 (1870).

Mr. Butler places three species in this genus.

1. **Aleuron chloroptera.**

Sphinx chloroptera, Perty, Del. Anim. Ar. Bras. t. 31. f. 3 [1].
Enyo chloroptera, Walk. Cat. viii. p. 118 [2].
Aleuron chloroptera, Boisd. Lép. Guat. p. 71 [3]; Sp. Gén. des Lép. Hét. i. p. 206 [4].

Hab. GUATEMALA [3]; HONDURAS [2] (*mus. Brit.*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*Ribbé*).—GUIANA, Cayenne [4]; BRAZIL [1].

A wide-ranging southern species, of which I have as yet seen only three Central-American specimens.

2. **Aleuron iphis.**

Enyo iphis, Walk. Cat. viii. p. 116 [1].
Tylognathus iphis, Boisd. Sp. Gén. des Lép. Hét. p. 295 [2].
Tylognathus scriptor, Feld. Reise d. Nov. Zool. ii., Lep. Th. iv. t. 82. f. 4 [3].

Hab. PANAMA, Chiriqui (*Arcé, mus. D., Ribbé*).—GUIANA, Surinam [2 3]; AMAZONS [3]; BRAZIL [1].

I have only seen two specimens of this species from Central America; and none has been as yet sent from any locality north of Panama.

GONENYO.

Gonenyo, Butler, Trans. Z. S. ix. p. 543 (1877).

Mr. Butler states that this genus differs from *Enyo* in the form of the palpi, and also from *Callenyo* in the more highly developed palpi, the length of the abdomen, the undulation of the outer margin of primaries, &c. I must say that I find the differences between many of these genera of Sphingidæ so slight that I much doubt their value; and had I time to work out all the characters of the different genera, I feel sure some of them would have to be given up for want of definite characters.

1. Gonenyo carinata.

Enyo carinata, Walk. Cat. viii. p. 117 [1].
Gonenyo carinata, Butl. Trans. Z. S. ix. p. 543 [2].

Hab. Panama, Chiriqui (*mus. Staudinger*).—Para [1 2].

HEMEROPLANES.

Hemeroplanes, Hübner, Verz. bek. Schmett. p. 133 (1816).

This genus is allied to *Enyo*, from which it differs as follows:—The wings are much broader, the body much larger and more robust, and the antennæ longer and more slender. It is a Neotropical genus, two of the four known species being found in Central America.

1. Hemeroplanes triptolemus.

Sphinx tripolemus, Cr. Pap. Ex. t. 216. f. F [1].
Calliomma triptolemus, Walk. Cat. viii. p. 111 [2].
Madoryx triptolemus, Boisd. Sp. Gén. des Lép. Hét. i. p. 154 [3].

Hab. Guatemala, Coban (*Champion*); Panama, Colon (*Boucard, mus. D.*).—Ecuador (*mus. D.*); Guiana, Surinam [1], Cayenne [3]; Amazons, Para [2], Ega [2]; Brazil [2].

This species seems to have a very extended range, though I have only seen two specimens from Central America; they do not appear to differ in any respect from the South-American form.

2. Hemeroplanes oiclus.

Sphinx oiclus, Cr. Pap. Ex. t. 216. f. C [1]; Merian, Ins. Surinam, t. 39 [2].
Madoryx oiclus, Boisd. Sp. Gén. des Lép. Hét. p. 151 [3].

Hab. British Honduras, Belize (*Blancaneaux*); Guatemala (*Boucard, mus. D.*).—Guiana, Surinam [1 2], Cayenne [3].

I have only seen two specimens, both of which are in bad condition; but I have no doubt they are of this species.

Subfam. *CHÆROCAMPINÆ.*

CHÆROCAMPA.

Chærocampa, Duponchel, Hist. Lép. Fr. ii. Suppl. p. 159 (1835).

The species of this genus are widely distributed over the globe, Asia being the head quarters of the genus. Mr. Butler enumerates seventy-nine species in his paper on the Sphingidæ. I have described six from Central America, making eighty-five described species; some of these, however, are of very doubtful value.

1. **Chærocampa trilineata.**

Chærocampa trilineata, Walk. Cat. xxxi. Suppl. p. 30[1].

Hab. NICARAGUA, Chontales (*Belt*).—VENEZUELA[1]; TRINIDAD (*mus. D.*).

I have only seen one specimen of this species from Central America, which agrees in all respects with the type. The Trinidad specimens are small and darker in colour, but do not differ in any other respect.

2. **Chærocampa libya.** (Tab. II. fig. 5.)

Chærocampa libya, Druce, Ent. Monthl. Mag. xiv. p. 249[1].

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui[1] (*Arcé, mus. D.*).

The specimen from Nicaragua differs from the type, the orange band of the posterior wing being slightly narrower and more clouded with black.

3. **Chærocampa lælia.** (Tab. II. fig. 4.)

Chærocampa lælia, Druce, Ent. Monthl. Mag. xiv. p. 249[1].

Hab. MEXICO (*mus. Staudinger*); PANAMA, Chiriqui[1] (*Arcé, mus. D.*).

I have as yet only seen three specimens of this species. It is nearly allied to *C. libya*, but is smaller, the primaries much paler and narrower, the orange fascia of the secondaries much wider, the black margin being very narrow and not reaching the apex. It resembles *C. neoptolemus* (Cr.) from Surinam, but wants the well-defined red band of the secondaries.

4. **Chærocampa porcus.**

Oreus porcus, Hübn. Ex. Schmett. ii. t. 162.

Darapsa porcus, Walk. Cat. viii. p. 187.

Hab. PANAMA, Chiriqui (*mus. Staudinger*).—ECUADOR (*mus. D.*).

5. **Chærocampa salvini.** (Tab. I. fig. 2.)

Chærocampa salvini, Druce, Ent. Monthl. Mag. xiv. p. 249[1].

Hab. Guatemala [1], Las Nubes (*Salvin, mus. D.*); Nicaragua, Chontales (*Belt, mus. Oxf.*); Panama, Chiriqui (*mus. Staudinger*).

The specimen figured is the type from Guatemala. The only other examples known to me are in the Hope collection at Oxford and in that of Dr. Staudinger.

6. Chærocampa anubus.

Sphinx anubus, Cr. Pap. Ex. t. 128. f. F [1].
Chærocampa anubus, Butl. Trans. Z. S. ix. p. 562 [2]; Boisd. Sp. Gén. des Lép. Hét. i. p. 266 [3].

Hab. Nicaragua, Chontales (*Belt, mus. Oxf.*); Panama, Chiriqui (*mus. Staudinger*). —Guiana, Surinam [1], Cayenne [3]; Brazil [2], Rio.

The only Central-American specimens of this species that I have seen are in the Hope collection at Oxford.

7. Chærocampa tersa.

Sphinx tersa, Linn. Mant. p. 538 [1]; Drury, Ill. i. p. 61, t. 28. f. 3 [2].
Chærocampa tersa, Walk. Cat. viii. p. 131 [3].

Hab. North America [3], Maryland [2].—Mexico [3], Mazatlan (*H. Edwards*), Cordova (*Rümeli*); British Honduras, Belize (*Blancaneaux*); Guatemala, Dueñas (*F. D. G. & O. S., mus. Oxf.*), Coban (*Champion*); Nicaragua, Chontales (*Belt*); Panama, Chiriqui (*Arcé, mus. D.*).—Antilles, Jamaica [2], San Domingo [3], &c.; Ecuador (*mus. D.*); Trinidad (*mus. D.*); Paraguay (*mus. D.*); Brazil [3].

I have a large series of this wide-ranging species before me. In Guatemala it seems to be a scarce insect; I have only seen two specimens from that locality. Those from Paraguay are the smallest I have seen, but do not differ in any specific characters that would enable me to separate them.

8. Chærocampa crotonis.

Chærocampa crotonis, Walk. Cat. viii. p. 133 [1]; Boisd. Sp. Gén. des Lép. Hét. i. p. 170 [2].

Hab. Nicaragua [2]; Panama, Chiriqui (*mus. Staudinger*).—Venezuela [1].

9. Chærocampa aristor. (Tab. I. fig. 7.)

Chærocampa aristor, Boisd. Lép. Guat. p. 69 [1]; Sp. Gén. des Lép. Hét. i. p. 270 [2].
Chærocampa aristor, Butl. Trans. Z. S. ix. p. 563 [3].

Hab. Guatemala [1].—Colombia [1 2]; Venezuela [3].

For the pleasure of figuring this species I am indebted to Mons. C. Oberthür's kindness in allowing me to have the type specimen from his collection for that purpose. I must, however, remark that its presence in Central America requires confirmation, as it rests solely on the authority of Boisduval, who included it in his paper on the

Lepidoptera of Guatemala, a work full of inaccuracies as regards the localities of the species mentioned.

10. **Chærocampa titana.** (Tab. I. fig. 6.)

Chærocampa titana, Druce, Ent. Monthl. Mag. xiv. p. 249 [1].

Hab. PANAMA, Chiriqui [1] (*Arcé, mus. D.*).

This species is allied to *C. aristor.* I have only seen a single specimen of it.

11. **Chærocampa belti.** (Tab. I. figg. 3, 4.)

Chærocampa belti, Druce, Ent. Month. Mag. xiv. p. 248 [1].

Hab. NICARAGUA, Chontales [1] (*Belt*).

A second specimen of this fine insect is in the Hope collection at Oxford, to which it was presented by the late Mr. Belt. The species is nearly allied to *C. virescens,* Butler.

12. **Chærocampa nitidula.**

Chærocampa nitidula, Clemens, Journ. Ac. Phil. 1859, p. 151 [1]; Butl. Trans. Z. S. ix. p. 564 [2].
Chærocampa lævis, Grote & Robinson, Ann. Lyc. N. Y. viii. p. 356, t. 14. f. 1 [3].

Hab. MEXICO [1], Mirador [2]; GUATEMALA, Las Mercedes (*Champion*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*Ribbé*).—ECUADOR (*mus. D.*).

The specimens in my collection from Ecuador are small, but in other respects do not differ from the type. They are the only ones I have seen from South America.

13. **Chærocampa cyrene,** sp. n. (Tab. I. fig. 5.)

Primaries rich brown, a pale pinkish-brown band crossing the middle of the wing from the inner margin to the costal margin just above the apex, all the veins showing, and marked by small brown dots as in *C. nitidula*; secondaries dark brown, crossed by a broad pale brown fascia rather below the middle. Underside reddish brown, thickly speckled with dark brown. Head, thorax, and upper part of abdomen dark brown; underside and apex reddish brown. Exp. $4\frac{1}{2}$ inches.

Hab. PANAMA, Chiriqui (*Arcé, mus. D.*).

I have only seen a single example of this species; it is quite unlike any with which I am acquainted, but nearest *C. nitidula.*

14. **Chærocampa versuta.**

Chærocampa versuta, Clemens, Journ. Ac. Phil. 1859, p. 152 [1].

Hab. MEXICO [1].

I have never seen specimens of this species; and Mr. H. Edwards informs me that it is quite unknown to him.

15. **Chærocampa chiron.**

Sphinx chiron, Drury, Ill. i. t. 26. f. 3 [1].
Chærocampa chiron, Butl. Trans. Z. S. ix. p. 565 [2].

Hab. NICARAGUA, Chontales (*Belt, mus. Oxf.*); PANAMA, Chiriqui (*mus. Staudinger*). —BRAZIL [2], Monte Video [2].

This species seems to me to be only a red form of *C. nechus.* Mr. Butler informs me that he has received fresh specimens of both species in the same collection.

16. **Chærocampa nechus.**

Sphinx nechus, Cr. Pap. Ex. t. 178. f. B [1].
Chærocampa nechus, Butl. Trans. Z. S. ix. p. 565 [2].

Hab. MEXICO [2] (*mus. D.*); PANAMA, Chiriqui (*Arcé, mus. D.*).—ECUADOR (*mus. D.*); PARAGUAY (*mus. D.*); EAST INDIES [1].

Cramer's locality is without doubt erroneous.

17. **Chærocampa falco.** (Tab. I. fig. 8.)

Chærocampa falco, Walk. Cat. viii. p. 132 [1].
Chærocampa fugax, Boisd. Lép. Guat. p. 70 [2].

Hab. MEXICO [1 2] (*Hartweg*); HONDURAS [2].

I have examined Boisduval's type; it differs slightly from Walker's, but not, in my opinion, in any way sufficient to justify its being considered a distinct species. The figure is taken from Boisduval's type.

18. **Chærocampa ceratomioides.**

Chærocampa ceratomioides, Grote & Robinson, Ann. Lyc. N. Y. viii. p. 358, t. 14. f. 2 [1]; Butl. Trans. Z. S. ix. p. 565 [2].

Hab. MEXICO, Mirador [1], Cordova (*Rümeli*); PANAMA, Chiriqui (*Arcé, mus. D.*).—VENEZUELA [2]; BRAZIL, Rio [2]; PARAGUAY (*mus. D.*).

A very wide-ranging species. The Central-American specimens are larger and darker in colour than those from the south.

DEILEPHILA.

Deilephila, Ochsenheimer, Schmett. Eur. iv. p. 42 (1816).

This genus is very widely distributed, being found in the Nearctic, Neotropical, and and Palæarctic Regions. Twenty-two species are enumerated by Mr. Butler in his Catalogue, one only being found in Central America.

1. **Deilephila lineata.**

Sphinx lineata, Fab. Syst. Ent. p. 541 [1].
Sphinx daucus, Cr. Pap. Ex. ii. t. 125. f. D [2].
Deilephila lineata, Butl. Trans. Z. S. ix. p. 568 [3].

Hab. North America [2].—Mexico, Mazatlan (*H. Edwards*), Oaxaca [3] (*Hartweg, mus. B.*). —Antilles, Jamaica, Haiti, &c.; Colombia; Ecuador (*mus. D.*).

The only Central-American specimen with which I am acquainted is one in the British Museum.

PHILAMPELUS.

Philampelus, Harris, Amer. Journ. Sc. xxxvi. p. 299 (1839).

Nineteen species are placed in this genus by Mr. Butler, several of them being of very doubtful value. I quite agree with him that *P. eacus* and *P. cissi* are only varieties of *P. pandorus* and *P. satellitia.* Sixteen species are found in the Neotropical, and three in the Ethiopian Region.

1. **Philampelus vitis.**

Sphinx vitis, Linn. Mus. Lud. Ulr. p. 354 [1].
Eumorpha elegans Jussieuæ, Hübn. Samml. ex. Schmett. i. t. 170. f. 1, 2 [2]; ii. t. 163. f. 3, 4.
Philampelus vitis, Butl. Trans. Z. S. ix. p. 574 [3].

Hab. Mexico [3] (*Boucard, mus. D.*); Costa Rica, Irazu (*Rogers*); Panama, Chiriqui (*mus. Staudinger*).—Antilles, Jamaica [3], San Domingo [3]; Ecuador; Paraguay; Argentine Republic (*mus. D.*).

This appears to be a wide-ranging common southern species; but as yet I have only seen four specimens from Central America, which do not differ in any respect from the large series of southern specimens before me.

2. **Philampelus linnei.**

Philampelus linnei, Grote & Robinson, Proc. Ent. Soc. Phil. v. pp. 157, 179, 182, t. 3. f. 3.
Sphinx vitis, Cr. Pap. Ex. iii. t. 268. f. E.
Philampelus vitis, Walk. Cat. viii. p. 176 [1].

Hab. Mexico [1], Cordova (*Rümeli*); Guatemala, San Gerónimo (*Champion*); Panama, Chiriqui (*Ribbé*; *Arcé, mus. D.*), Colon (*Boucard, mus. D.*).—Antilles, San Domingo [1], Cuba (*mus. D.*); Colombia, Manaure (*mus. D.*); Ecuador (*mus. D.*); Trinidad (*mus. D.*); Guiana.

Walker in his Catalogue places this very distinct species with *P. vitis* [1]. The Cuban specimens are the smallest I have seen, but do not differ in any other respect. I have not seen an example from any locality south of Ecuador. *P. vitis* has a much more southern range.

3. **Philampelus typhon.**

Sphinx typhon, Klug, Neue Schmett. Mus. Berl. Heft i. t. 3. f. 1[1].
Philampelus typhon, Walk. Cat. viii. p. 177[2].

Hab. Mexico[1 2], Oaxaca (*Deppe, mus. Oxf.*).

Of this fine species I have only seen the specimen in the Hope collection at Oxford; its nearest ally is *P. linnei.*

4. **Philampelus pandorus.**

Daphnis pandorus, Hübn. Samml. ex. Schmett. ii. t. 161. f. 3, 4.
Philampelus pandorus, Walk. Cat. viii. p. 174[1].

Hab. North America[1].—Mexico, Cordova (*Rümeli*); Guatemala, Coban (*Champion*); Panama, Chiriqui (*Ribbé*).—Antilles, Jamaica (*mus. D.*).

A very variable species, closely allied to *P. lycaon* (Cr.).

5. **Philampelus satellitia.**

Sphinx satellitia, Linn. Mant. i. p. 539[1]; Drury, Ill. i. t. 29. f. 1[2].
Philampelus satellitia, Butl. Trans. Z. S. p. 576[3].

Hab. British Honduras[3]; Nicaragua, Chontales (*Belt*); Panama, Chiriqui (*Ribbé, Arcé, mus. D.*).—Antilles, Jamaica[3]; Colombia, Antioqua (*mus. D.*); Ecuador (*mus. D.*).

This species is the largest of the genus; its nearest ally is *P. lycaon.*

6. **Philampelus anchemolus.**

Sphinx anchemolus, Cr. Pap. Ex. t. 224. f. C[1].
Philampelus anchemolus, Walk. Cat. viii. p. 178[2]; Butl. Trans. Z. S. ix. p. 577[3].

Hab. Mexico, Mazatlan (*H. Edwards*); Panama, Chiriqui (*mus. Staudinger*).—Guiana, Surinam[1 2]; Rio Janeiro[3].

Very closely allied to *P. satellitia.*

7. **Philampelus labruscæ.**

Sphinx labruscæ, Linn. Mus. Lud. Ulr. p. 352; Clerck, Icones Ins. t. 47. f. 3.
Philampelus labruscæ, Walk. Cat. viii. p. 178[1].

Hab. Mexico[1] (*Boucard, mus. D.*).—Antilles, Jamaica[1], San Domingo[1]; Cuba (*mus. D.*); Colombia[1]; Ecuador (*mus. D.*); Venezuela[1]; Argentine Republic (*mus. D.*).

This species occurs in Mexico; but as yet I have not seen a specimen from any other

part of Central America. In South America it is common, and ranges over a very wide tract of country.

PACHYLIA.

Pachylia, Walker, Cat. viii. p. 189 (1856).

Six species have been described, all peculiar to Tropical America, three (as far as I know) being found in Central America.

1. **Pachylia ficus.**

Sphinx ficus, Linn. Mus. Lud. Ulr., ex Clerck, Icones Ins. t. 49. f. 2[1].
Pachylia ficus, Butl. Trans. Z. S. ix. p. 578[2].

Hab. MEXICO[2]; BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, Coban (*Champion*); NICARAGUA, Chontales (*Belt*); COSTA RICA, Irazu (*Rogers, van Patten, mus. D.*); PANAMA, Chiriqui (*mus. Staudinger*).—ANTILLES, San Domingo; ECUADOR (*mus. D.*); TRINIDAD (*Mus. D.*).

This insect varies to a considerable extent—some specimens having all the markings dark and well defined, whilst in others they are almost wanting; but I cannot detect any character of specific value by which to separate the large series of specimens before me.

2. **Pachylia darceta,** sp. n. (Tab. II. fig. 4.)

Uniform dull brown, paler beneath; primaries with some slight undulating brown bands beyond the middle, two straight brown bands near the base, and a brown spot at the end of the cell; secondaries brown, rather paler at the base; abdomen, antennæ, and legs brown. Exp. $4\frac{3}{4}$ inches.

Hab. PANAMA, Chiriqui (*mus. Staudinger*).

This species resembles *Nephele æquivalens*, Walk., from West Africa.

3. **Pachylia syces.**

Enyo syces, Hübn. Verz. bek. Schmett. p. 132.
Sphinx ficus, Cram. Pap. Ex. iv. t. 394. f. D.
Pachylia syces, Butl. Trans. Z. S. ix. p. 578.
Pachylia inornata, Clem. Journ. Ac. Phil. 1859, p. 159.

Hab. MEXICO, Cordova (*Rümeli*); BRITISH HONDURAS, Belize (*Blancaneaux*); PANAMA, Chiriqui (*Ribbé*).—ECUADOR (*mus. D.*); UPPER AMAZONS (*mus. D.*); PARAGUAY (*mus. D.*).

This species is easily distinguished from the former one by having the secondaries uniform dark brown.

4. **Pachylia resumens.**

Pachylia resumens, Walk. Cat. viii. p. 190[1]; Herrich-Schäffer, Samml. auss. Schmett. ii. f. 556.

Hab. Honduras[1]; Nicaragua, Chontales (*Belt, mus. Oxf.*); Panama, Chiriqui (*Ribbé*; *Arcé, mus. D.*).—Antilles, San Domingo[1]; Ecuador (*mus. D.*); Brazil, Rio[1].

This is the smallest species of the genus, and easily distinguished from the two preceding species by the primaries wanting the light spot at the apex.

Subfam. *AMBULICINÆ.*

AMBULYX.

Ambulyx, Walker, Cat. viii. p. 120 (1856).

Twenty-three species are placed in this genus, five of which are described from Tropical America, three only as yet being found in Central America.

1. **Ambulyx strigilis.**

Sphinx strigilis, Linn. Mant. i. p. 538; Cr. Pap. Ex. ii. t. 106. f. B[1].
Ambulyx strigilis, Walk. Cat. viii. p. 121[2].

Hab. Panama (*mus. Staudinger*).—Antilles, San Domingo[2] (*mus. D.*); Brazil, Rio Janeiro[2].

2. **Ambulyx gannascus.**

Sphinx gannascus, Stoll, Pap. Ex. t. 35. f. 3, 3B[1].
Ambulyx gannascus, Butl. Trans. Z. S. ix. p. 581[2].

Hab. Guatemala, San Isidro (*Champion*); Nicaragua, Chontales (*Belt, mus. Oxf.*); Panama, Chiriqui (*Arcé, mus. D.*).—Antilles, Jamaica[2].

The locality Cape of Good Hope given by Stoll[1] is, without doubt, a mistake. The specimens before me agree well with his figure. I have not seen an example from any locality south of Panama.

3. **Ambulyx rostralis.**

Ambulyx rostralis, Boisd. Lép. Guat.[1] p. 68; Feld. Reise d. Nov. Zool. ii., Lep. Th. iv. t. 77. f. 6[2]; Butl. Trans. Z. S. ix. p. 581[3].

Hab. Nicaragua[1].—Colombia[1]; Ecuador (*mus. D.*); Amazons[2 3]; Brazil[3].

I have, through the kindness of Mons. C. Oberthür, examined the type of this species. The specimens from Ecuador agree with it in all respects. Boisduval's is the only authority for its occurrence in Central America.

4. Ambulyx sexoculata.

Ambulyx sexoculata, Grote, Ann. Lyc. N. Y. viii. p. 204[1].

Hab. GUATEMALA (*mus. Brit.*).—BRAZIL[1].

This species is allied to *A. rostralis* and *A. gannascus*.

Subfam. *SMERINTHINÆ*.

SMERINTHUS.

Smerinthus, Latreille, Hist. Nat. Ins. iii. p. 431 (1802).

About six species are placed in this genus, two being found in Central America.

1. Smerinthus ophthalmicus.

Smerinthus ophthalmicus, Boisd. Ann. Soc. Ent. Belge, xii. p. 67[1]; Strecker, Lep. Rhop. & Het. pt. 7, t. 7. ff. 4, 5[2]; Butl. Trans. Z. S. ix. p. 592[3].

Hab. N. AMERICA, California[2].—MEXICO[1 3] (*mus. Brit.*).

2. Smerinthus saliceti. (Tab. I. fig. 9.)

Smerinthus saliceti, Boisd. Sp. Gen. des Lép. Hét. p. 35[1].

Hab. MEXICO[1].

I have only seen the type specimen of this species, kindly lent me by Mons. C. Oberthür to figure. It is nearly allied to *S. ophthalmicus*, but a much smaller species.

Subfam. *SPHINGINÆ*.

AMPHONYX.

Amphonyx, Poey, Cent. Lep. Cuba (1832).

This genus is closely allied to *Acherontia*, from which it mostly differs in having longer and narrower wings, more slender antennæ, and semitransparent hind wings.

1. Amphonyx duponcheli.

Amphonyx duponcheli, Poey, Cent. Lep. Cuba[1]; Butl. Trans. Z. S. ix. p. 599[2].

Macrosilia antæus (part.), Walk. Cat. viii. p. 200[3].

Hab. PANAMA, Chiriqui (*Arcé, mus. D.*).—ANTILLES, Jamaica[2 3], San Domingo[2 3], Cuba[1] (*mus. D.*), Trinidad (*mus. D.*).

I have not seen specimens of this species from any locality north of Panama.

2. Amphonyx medor.

Sphinx medor, Cr. Pap. Ex. iv. t. 394. f. A[1].

Amphonyx medor, Butl. Trans. Z. S. ix. p. 599[2].

Hab. MEXICO[2], Jalapa (*Höge*), Valladolid, Yucatan (*Gaumer*).—ECUADOR (*mus. D.*); GUIANA, Surinam[1].

Allied to the preceding species, but altogether darker in colour.

3. **Amphonyx rivularis.**

Amphonyx rivularis, Butl. P. Z. S. 1875, p. 11[1]; Trans. Z. S. ix. p. 599, t. 94. f. 6.

Hab. NICARAGUA, Chontales (*Belt, mus. Oxf.*); PANAMA, Chiriqui (*Arcé, mus. D.*).—AMAZONS, Ega [1].

This species is easily distinguished from all other members of the genus by the green shade of the primaries.

4. **Amphonyx cluentius.**

Sphinx cluentius, Cr. Pap. Ex. i. t. 78. f. B[1].

Hab. PANAMA, Chiriqui (*mus. Staudinger*).—GUIANA, Surinam[1]; BRAZIL, Rio (*mus. D.*).

I include this species on Dr. Staudinger's authority.

ANCERYX.

Anceryx, Walk. Cat. viii. p. 222 (1856).

This genus, as restricted by Mr. Butler, contains two closely-allied species, both belonging to the Neotropical Region. One only of these occurs within our limits.

1. **Anceryx alope.**

Sphinx alope, Drury, Ill. Nat. Hist. i. t. 27. f. 1[1].

Hab. PANAMA, Chiriqui (*Ribbé*).—ANTILLES, Jamaica[1]; ECUADOR (*mus. D.*); S.E. BRAZIL (*mus. D.*).

I have only seen a single example of this species from Central America, taken near Chiriqui. It agrees in all respects with a large series of specimens from Ecuador.

ISOGNATHUS.

Isognathus, Felder, Wien. ent. Mon. vi. p. 187 (1862).

Mr. Butler places nine species in this genus, all being found in South America, one only as yet having been recorded from Panama.

1. **Isognathus scyron.**

Sphinx scyron, Cr. Pap. Ex. iv. t. 301. f. B[1].

Hab. PANAMA, Chiriqui (*mus. Staudinger*).—GUIANA, Surinam [1].

I have not seen a Central-American specimen of this species, but include it on the authority of Dr. Staudinger.

DILOPHONOTA.

Dilophonota, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 69 (1855).

Very close to the two preceding genera. It contains about eleven species, six of which occur within our region.

1. **Dilophonota ello.**

Sphinx ello, Linn. Mus. Lud. Ulr. p. 351; Drury, Ill. Nat. Hist. i. t. 27. f. 3.
Anceryx ello, Walk. Cat. viii. p. 224.

Hab. Mexico, Mazatlan (*H. Edwards*), Cordova (*Rümeli*), Jalapa (*Höge*); Guatemala, Mirandilla, Coban (*Champion*); Costa Rica, Irazu, Cache (*Rogers*); Panama, Chiriqui (*Arcé, mus. D.*).—Antilles, San Domingo &c., Trinidad (*mus. D.*); Colombia (*mus. D.*); Ecuador (*mus. D.*); Argentine Republic (*mus. D.*).

This species ranges over a very wide tract of country. It does not vary to any extent, and is easily distinguished from the nearly allied species by its pale anterior wings.

2. **Dilophonota omphaleæ.**

Anceryx omphaleæ, Boisd. Lep. Guat. p. 72[1].
Dilophonota omphaleæ, Butl. Trans. Z. S. ix. p. 603[2].

Hab. Mexico[2] (*Hartweg*); Nicaragua[1]; Panama, Chiriqui (*Arcé, mus. D.*).—Antilles, San Domingo[2].

This species is very close to *D. ænotrus*; in fact, I think it is hardly distinct. Boisduval does not mention it in his last work on the Sphingidæ.

3. **Dilophonota ænotrus.**

Sphinx ænotrus, Cr. Pap. Ex. iv. t. 301. f. C[1].
Dilophonota ænotrus, Butl. Trans. Z. S. ix. p. 603[2].

Hab. Mexico (*Hartweg*[1]); Panama, Chiriqui (*mus. Staudinger*).—Antilles, San Domingo[2], Trinidad (*mus. D.*); Ecuador (*mus. D.*); Argentine Republic (*mus. D.*).

4. **Dilophonota obscura.**

Sphinx obscura, Fabr. Syst. Ent. p. 538[1].
Anceryx obscura, Walk. Cat. viii. p. 226[2].
Erinnyis stheno, Hübn. Samml. ex. Schmett. iii. t.[3]

Hab. Mexico[1], Mazatlan (*H. Edwards*); Panama, Chiriqui (*mus. Staudinger*).—Antilles, San Domingo[2].

Mr. Butler states that the examples of this species from San Domingo are paler than those from Mexico.

5. **Dilophonota rhæbus.**

Anceryx rhæbus, Boisd. Lep. Guat. p. 72[1].
Dilophonota domingonis, Butl. P. Z. S. 1875, p. 258[2].

Hab. Mexico[1]; British Honduras[1].—Antilles, San Domingo; Ecuador (*mus. D.*).

Mr. Butler placed Boisduval's species with *D. obscura*. Through the kindness of M. C. Oberthür, I have examined the type and find, without doubt, that *D. domingonis* is the same as *D. rhæbus*.

6. **Dilophonota caicus.**

Sphinx caicus, Cr. Pap. Ex. ii. t. 125. f. F [1].
Anceryx caicus, Walk. Cat. viii. p. 228 [2].

Hab. HONDURAS [2]; PANAMA, Chiriqui (*Arcé, mus. D.*).—ANTILLES, San Domingo [2]; ECUADOR (*mus. D.*); GUIANA, Surinam [2].

I have only seen a single specimen from Central America.

MACROSILA.

Macrosila, Walker, Cat. viii. p. 198 (1856).

Mr. Butler restricts this genus to two species, one of which occurs in our district.

1. **Macrosila incisa.**

Macrosila incisa, Walk. Cat. viii. p. 205 [1].

Hab. PANAMA, Chiriqui (*Arcé, mus. D.*).—BRAZIL, Rio [1].

My example from Chiriqui is paler than the Brazilian specimens.

PROTOPARCE.

Protoparce, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 63 (1855).

In this genus Mr. Butler places twenty-three species. It is closely allied to *Macrosila*, the chief difference being the much wider anterior wings.

1. **Protoparce rustica.**

Sphinx rustica, Fabr. Syst. Ent. p. 540 [1]; Cr. Pap. Ex. iv. t. 301. f. A [2].
Macrosila rustica, Walk. Cat. viii. p. 199 [3].
Sphinx chionanthi, Smith & Abbot, Lep. Ins. Georg. i. t. 34 [4].

Hab. NORTH AMERICA [4].—MEXICO [3], Mazatlan (*Forrer*); BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA (*F. D. G. & O. S.*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*Arcé, mus. D.*).—ANTILLES, San Domingo [3], Trinidad (*mus. D.*); ECUADOR (*mus. D.*); GUIANA, Surinam [2], Brazil [3].

The larva of *P. rustica* is described and well figured in Smith and Abbot's work on the insects of Georgia.

2. **Protoparce ochus.**

Sphinx ochus, Klug, Neue Schm. Heft i. t. 3. f. 2 [1].
Macrosila instita, Clemens, Journ. Ac. Phil. 1859, p. 164 [2].

Hab. MEXICO [1], Cordova (*Rümeli*), Jalapa (*Höge*); HONDURAS [2]; GUATEMALA, San Isidro (*Champion*); COSTA RICA, Irazu (*Rogers*).

This fine species is quite unlike any other. It is best placed with the *P. carolina* group. I have never seen a specimen from any locality south of Costa Rica.

3. **Protoparce carolina.**

Sphinx carolina, Linn. Mus. Lud. Ulr. p. 346[1]; Drury, Ill. Nat. Hist. i. t. 25. f. 1[2]; Abbot & Smith, Nat. Hist. Lep. Georg. t. xxxiii.[3]; Walk. Cat. viii. p. 216[4].

Hab. North America[2 3].—Mexico[4], Mazatlan (*H. Edwards*), Cordova (*Rümeli*); Nicaragua, Chontales (*Belt*); Panama, Chiriqui (*Arcé, mus. D.*).—Antilles, San Domingo[4], Cuba (*mus. D.*), Trinidad (*mus. D.*); Ecuador (*mus. D.*); S.E. Brazil[4] (*mus. D.*).

The larva and pupa of *P. carolina* are well figured by Abbot and Smith[3].

4. **Protoparce jamaicensis.**

Protoparce jamaicensis, Butl. Trans. Z. S. ix. p. 608[1].

Hab. Mexico, Cordova (*Höge*); Panama, Chiriqui (*mus. Staudinger*).—Antilles, Jamaica[1] (*mus. D.*).

A well-marked form of *P. carolina*, being always larger, and the secondaries with a pale brown instead of whitish ground-colour.

5. **Protoparce paphus.**

Sphinx paphus, Cr. Pap. Ex. iii. t. 216. f. B[1].

Hab. Panama (*mus. Staudinger*).—Guiana, Surinam[1].

I have never seen this species, but include it here on the authority of Dr. Staudinger.

6. **Protoparce lucetius.**

Sphinx lucetius, Cr. Pap. Ex. t. 301. f. B[1]; Walk. Cat. viii. p. 221[2].

Hab. Panama, Chiriqui (*Arcé, mus. D.*).—Guiana, Surinam[1]; Brazil[2].

I have only seen a single specimen of this insect. It is closely allied to the preceding species, from which it differs in having the anterior wings very much darker in colour, more thickly marked with black lines, and the posterior wings much blacker.

7. **Protoparce cingulata.**

Sphinx cingulata, Fabr. Syst. Ent. p. 545[1].

Sphinx convolvuli, Drury, Ill. Nat. Hist. t. 25. f. 4 (nec Linn.)[2].

Sphinx cingulata, Walk. Cat. viii. p. 215[3].

Hab. Mexico[3], Mazatlan (*H. Edwards*), Cordova (*Rümeli*); Guatemala, Pantaleon (*Champion*); Costa Rica, Irazu (*Rogers*); Panama, Chiriqui (*Arcé, mus. D.*).—Antilles, Jamaica[3], San Domingo, &c., Trinidad (*mus. D.*); Colombia (*mus. D.*); Ecuador (*mus. D.*).

This is a widely ranging species and varies to some extent in the colour of the secondary wings. In some specimens these wings are almost pink, in others greyish, closely resembling those of *P. convolvuli*, Linn.

PSEUDOSPHINX.

Pseudosphinx, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 65 (1855).

1. **Pseudosphinx tetrio.**

Sphinx tetrio, Linn. Mant. i. p. 538 [1].
Sphinx hasdrubal, Cr. Pap. Ex. t. 246. f. F [2].
Macrosila hasdrubal, Walk. Cat. viii. p. 202 [3].
Sphinx asdrubal, Poey, Cent. Lep. Cuba [4].

Hab. BRITISH HONDURAS [3], Belize (*Blancaneaux*); COSTA RICA, Irazu (*Rogers*); PANAMA, Chiriqui (*mus. Staudinger*).—ANTILLES, San Domingo [3], Cuba [4]; BRAZIL [3] (*mus. D.*).

This species varies much in the colour of the primaries. I have before me a specimen from Costa Rica very much darker than any others, and observe it agrees well with the form Mr. Butler has described as *P. obscura*; but, in default of other differences, I do not see any good specific characters whereby to separate it from the rest of my series.

DOLBA.

Dolba, Walker, Cat. viii. p. 229 (1856).

In this genus three species are placed, one of them being found in our country.

1. **Dolba hartwegii.**

Dolba hartwegii, Butl. P. Z. S. 1875, p. 259 [1]; Ill. Lep. Het. pt. i. p. 3, t. 15. f. 3 [2].

Hab. MEXICO, Oaxaca [1 2] (*Hartweg*), Maltrata (*Höge*).

This species is closely allied to *Dolba fo* from India.

DILUDIA.

Diludia, Grote & Robinson, Proc. Ent. Soc. Phil. v. p. 188 (1865).

Twenty-one species are included in this genus by Mr. Butler, nine being found in the Neotropical Region, three of them occurring within our country; the others are widely distributed over the globe, seven occurring in the Oriental, four in the Australian, and one in the Ethiopian Region.

1. **Diludia sesquiplex.**

Sphinx sesquiplex, Boisd. Lep. Guat. p. 73 [1]; Feld. Reise d. Nov. Lep. t. 78. f. 5.

Hab. GUATEMALA [1].

I have never seen this species.

2. **Diludia corallina,** n. sp. (Tab. II. fig. 3.)

Primaries greyish brown, thickly marked with yellowish-green scales, several indistinct waved brown bands crossing the wing from the costal to the inner margin; secondaries dark brown, crossed in the middle by two greyish bands: abdomen greyish, tinged with yellow. Exp. $4\frac{3}{4}$ inches.

Hab. MEXICO, Cordova (*Rümeli*); GUATEMALA, San Isidro (*Champion*).

Allied to *D. rufescens,* Butl., but smaller and much greyer in colour.

3. **Diludia lichenea.**

Macrosila lichenea, Walk. Cat. viii. p. 204 [1].
Diludia lichenea, Butler, Trans. Z. S. ix. p. 614 [2].
Hab. MEXICO, Cordova (*Höge*).—BRAZIL [1 2].

The Mexican example agrees well with the type in the British Museum.

SPHINX.

Sphinx, Linnæus, Syst. Nat. i. 2, p. 796 (1766).

Seventeen species are included in this genus, which is widely distributed over the globe.

1. **Sphinx leucophæata.**

Sphinx leucophæata, Clemens, Journ. Ac. Phil. 1859, p. 168 [1]; Butl. Trans. Z. S. ix. p. 618 [2].
Hab. MEXICO [2], Oaxaca (*Hartweg*).

I have not seen Clemens's species; but, from the description, should judge it to be the same as *S. lugens*. This opinion is shared by Mr. H. Strecker, who says, in his 'Lepidoptera Rhopalocera and Heterocera,' that it is quite unknown to American entomologists.

2. **Sphinx lugens.**

Sphinx lugens, Walk. Cat. viii. p. 219 [1].
Sphinx andromedæ, Boisd. Lep. Guat. p. 74 [2].
Hab. MEXICO, near the city (*Höge*), Oaxaca [1] (*Hartweg*); BRITISH HONDURAS [2].

Mr. Butler says of this insect—"Although coming from the same locality as the preceding, and very like it in its general characters, I believe this species to be quite distinct. It is altogether shorter, broader, and darker, and has the pale bars of secondaries much narrower and whiter." I think it very doubtful whether Clemens's species is distinct; the specimens of *S. lugens* I have examined in the Oxford Museum vary to some extent.

3. **Sphinx justiciæ.**

Sphinx justiciæ, Walk. Cat. viii. p. 220 [1].
Sphinx merops, Boisd. Lep. Guat. p. 73 [2].
Hab. MEXICO [2], Cordova (*Rümeli*); BRITISH HONDURAS [2]; COSTA RICA, Irazu (*Rogers*); PANAMA, Chiriqui (*Ribbé*; *Arcé, mus. D.*).—BRAZIL, Rio [1].

This is a common species in Central America, but becomes scarce south of Panama. Through the kindness of Mons. C. Oberthür I have had an opportunity of examining Boisduval's type of *S. merops*, and find that it must without doubt be referred to *S. justiciæ*.

4. **Sphinx lanceolata.**

Sphinx lanceolata, Feld. Reise d. Nov. Lep. t. 78. f. 3 [1].
Hab. MEXICO [1]; GUATEMALA [1].

I have never seen a specimen of this fine species.

CERATOMIA.

Ceratomia, Harris, Sill. Journ. xxxvi. p. 293 (1839).

1. Ceratomia amyntor.

Agrius amyntor, Hübn. Samml. ex. Schmett. iii. t.
Ceratomia amyntor, Butl. Trans. Z. S. ix. p. 621 [1].
Hab. North America [1].—Mexico [1] (*mus. Brit.*).

Fam. CASTNIIDÆ.

CASTNIA *.

Castnia, Fabricius, Syst. Glossat. sec. Illig. Mag. vi. p. 270 (1807).

Sixty-eight species are included in this genus, all being found in the Neotropical Region. Sixteen species occur in our country, two or three of these being of doubtful origin, their occurrence in Central America requiring confirmation.

Prof. Westwood gives very minute details of the structure of this genus in his paper, but does not seem to have found sufficient characters to warrant him in adopting the separate genera proposed by Boisduval for the several rather distinct-looking forms included in it.

1. Castnia dædalus.

Papilio dædalus, Cr. Pap. Ex. i. p. 1, t. i. f. A, B [1].
Castnia dædalus, Westw. Trans. L. S. ser. 2, Zool. i. p. 167 [2].
Papilio cyparissius, Fabr. Gen. Ins. Mant. p. 257 [3].
Hab. Panama, Chiriqui (*Arcé, mus. D.*).—Ecuador (*mus. D.*); Guiana, Surinam [1]; Upper Amazons (*mus. D.*).

Apparently a common species in Guiana and the Amazons valley; thence it spreads to the State of Panama, where, however, it would appear to be less abundant, a single specimen only having come under my notice. It appears to be unknown in South Brazil.

2. Castnia veraguana.

Castnia veraguana, Westw. Trans. L. S. ser. 2, Zool. i. p. 168, t. 30. f. 1 [1].
Hab. Panama, Veraguas [1] (*Arcé, mus. Oxf.*).

This very fine species is allied to *C. cacica*, from which it differs in several particulars pointed out by the describer. The only specimen with which I am acquainted is the type now in the Oxford Museum. This was sent some years ago to Messrs. Godman and Salvin from the State of Panama by their collector Arcé.

* In the arrangement of this genus I have to a great extent followed that of Prof. Westwood in his paper on this genus (Trans. Linn. Soc. ser. 2, Zool. i. p. 155 et seqq.).

3. Castnia cacica.

Castnia cacica, H.-Schäffer, Aussereur. Schm. f. 143[1]; Westw. Trans. L. S. ser. 2, Zool. i. p. 169[2].
Castnia procera, Boisd. Sp. Gén. des Lép.-Het. i. p. 503[3]; Westw. Trans. L. S. ser. 2, Zool. i. p. 169[4].

Hab. GUATEMALA [2 3], Polochic valley (*Salvin* [2], *mus. Oxf.*), San Juan (*Champion*); NICARAGUA, Chontales (*Belt* [2], *mus. Oxf.*); COSTA RICA (*Van Patten, mus. D.*); PANAMA, Chiriqui (*Ribbé, Arcé, mus. D.*); Bugaba, 800 to 1500 feet (*Champion*).—COLOMBIA [1].

This species has a wide range in Central America, as will be seen above. In South America it is restricted to the valley of the Magdalena.

The specimens before me differ from H.-Schäffer's figure in wanting the white spot at the end of the discoidal cell of the primaries. Through the kindness of Mons. C. Oberthür, I have been enabled to examine the type of Boisduval's *C. procera*, and find that it does not differ in any respect from *C. cacica*, except in wanting the white discoidal spot; and I cannot but think that it is a mistake on the part of Herrich-Schäffer in inserting this spot, and believe his figure to have been taken from a rubbed specimen. I have now before me a considerable number of examples from widely different localities, and do not find the slightest trace of the spot referred to. In some specimens recently received from Bugaba, traces of three ill-defined marginal red spots are present on the primaries. The red band and the spots on the secondaries vary to some extent: in some specimens before me the band is narrow and the spots quite small and distinct; in others the former is much wider, and the spots almost joined together, forming a marginal band instead of a row of spots.

4. Castnia icarus.

Papilio icarus, Cram. Pap. Ex. i. t. 18. f. A, B [1].
Castnia icarus, Dalman, Monogr. p. 10[2]; Boisd. Lep. Guat. p. 75[3]; Walk. Cat. i. p. 19[4].

Hab. GUATEMALA [3].—GUIANA, Surinam [1]; BRAZIL [2 4], Maranham.

The only authority for the statement that this species occurs in Central America appears to be Boisduval, and therefore requires confirmation, the species being a southern one.

5. Castnia atymnius.

Castnia atymnius, Dalman, Monogr. p. 12[1]; Walk. Cat. i. p. 17[2]; Boisduval, Sp. Gén. des Lép.-Het. i. p. 528[3]; Westw. Trans. L. S. ser. 2, Zool. i. p. 172[4].
Castnia spixii, Perty, Del. An. Art. Bras. t. xxxi. f. 3[5].
Castnia salasia, Boisduval, Sp. Gén. des Lép.-Het. i. p. 529.

Hab. MEXICO, Cordova (*Rümeli*); GUATEMALA [3], Cahabon, Panima, Senahu, and San Juan in Vera Paz (*Champion*); NICARAGUA, Chontales (*Belt*); COSTA RICA (*Van Patten*), Irazu (*Rogers*); PANAMA, Chiriqui (*Arcé, mus. D.*), Veraguas (*Boucard, mus. D.*), Colon (*Boucard, mus. D.*).—ECUADOR and S.E. BRAZIL [1 2 4] (*mus. D.*).

This species varies greatly, some specimens before me from Costa Rica being almost

without the white band on the primaries. But I cannot detect any difference of specific importance which would enable me to separate my large series of specimens. Prof. Westwood, in his paper on the genus *Castnia*[4], divides the species into three forms; but I am unable to do so, having specimens that completely connect them all together. *Castnia salasia* of Boisduval agrees in all respects with this species. I have compared the type with a large number of specimens, and cannot detect the slightest difference.

6. **Castnia futilis.** (Tab. IV. fig. 5.)

Castnia futilis, Walker, Cat. vii. p. 1581[1].

Hab. NICARAGUA (*Delattré*); COSTA RICA (*Van Patten*), Irazu (*Rogers*); PANAMA, Chiriqui, Veraguas (*Arcé, mus. D.*), Bugaba, 800 to 1500 feet (*Champion*).

This species is very distinct from *Castnia atymnus*, though Prof. Westwood considers it the same in his memoir on this genus, stating that the type in the British Museum is only a rubbed and faded specimen of *C. atymnus*. Having before me a long series of specimens in the finest condition, I find that *C. futilis* differs in many respects from *C. atymnus*, and that it must be retained as a distinct species. A Costa-Rican example is figured.

7. **Castnia licus.**

Papilio licus, Fabr. Ent. Syst. iii. t. 47[1]; Drury, Ins. i. t. 16. f. 1, 2[2]; Cramer, iii. t. 223. f. A, B[3].
Castnia licus, G. R. Gray, Trans. Ent. Soc. ii. p. 143; Walker, Cat. i. p. 18[4], vii. p. 1582[5]; Westwood, Trans. Linn. Soc. ser. 2, Zool. i. p. 173[6].

Hab. NICARAGUA, Chontales (*E. M. Janson, mus. D.*); COSTA RICA (*Van Patten, mus. D.*).—ECUADOR[6] (*mus. D.*); EAST PERU and BOLIVIA (*mus. D.*); GUIANA, Surinam[2 3]; TRINIDAD (*mus. D.*); AMAZONS, Para[4 6], Santarem (*mus. D.*), Ega[4 6]; BRAZIL[4 6].

This species seems to be a scarce insect in Central America. Van Patten only obtained a single example from Costa Rica, and some years later Janson sent one from Chontales in very poor condition. Both specimens agree well with the southern ones before me; but as yet they are the only examples I have seen from our country.

8. **Castnia inca.**

Castnia inca, Herr-Schäff. Samml. aussereur. Schm. f. 488, 489[1]; Walk. Cat. i. p. 24[2]; Hopffer, Neue Schmett. Heft ii. t. 4. f. 2[3]; Westwood, Trans. Linn. Soc. ser. 2, Zool. i. p. 171.
Castnia clitarcha ♂, Westwood, loc. cit. p. 176, t. 30. f. 1.

Hab. MEXICO[1 2 3], Cordova (*Höge*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, Senahu (*Champion*); HONDURAS[2].—VENEZUELA[2].

All the specimens I have seen agree well with Herrich-Schäffer's figures. The male of Westwood's *C. clitarcha* belongs to this species.

9. **Castnia clitarcha.** (Tab. III. fig. 7.)

Castnia clitarcha, Westw. Trans. Linn. Soc. ser. 2, Zool. i. p. 176, t. 30. f. 2.

Hab. PANAMA (*Salvin, mus. Oxf.*), Chiriqui (*Ribbe, mus. Staudinger*), Bugaba, 800 to 1500 feet (*Champion*).

The specimen figured by Prof. Westwood as the male of this species, I believe to be the male of *Castnia inca*. The true male of *C. clitarcha* now figured is a much larger insect, agreeing much more closely with the female. It has the outer margins of the secondaries black instead of orange, as in that species. *C. clitarcha* appears to have a very limited range in Central America; as yet I have only seen specimens from Chiriqui.

10. **Castnia chelone.**

Castnia chelone, Hopff. Neue Schmett. Heft ii. t. v. f. 1, 2 [1].

Hab. MEXICO [1].

I have never seen specimens of this species; but it appears to be allied to *C. mygdon* from North Brazil.

11. **Castnia viryi.**

Castnia viryi, Boisd. Sp. Gén. des Lép.-Hét. i. p. 515, t. 2. f. 3 [1].

Hab. MEXICO [1]; PANAMA, Volcan de Chiriqui (*Trotsch, mus. Staudinger*).

I have seen several specimens of this species; it is clearly the northern form of *C. evalthe*, which does not occur in our country.

12. **Castnia diva.** (Tab. IV. fig. 3.)

Castnia diva, Butler, Lepid. Exot. t. 17. f. 1, 2 [1]; Westw. Trans. Linn. Soc. ser. 2, Zool. i. p. 187 [2].

Castnia tricolor, Felder, Reise Nov. Zool. Bd. ii. Lep. t. lxxix. f. 3 [3]; Boisduval, Sp. Gén. des Lép.-Hét. p. 531 [4].

Hab. GUATEMALA, Zapote (*Champion*); NICARAGUA, Chontales (*Belt and Janson, mus. D.*); PANAMA, Chiriqui (*Arcé, mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA [3].

This fine species is generally distributed throughout Central America. The specimens from the Volcan de Chiriqui differ from the type in several respects; the primaries are of a much darker colour, and almost without the metallic spots; the orange marginal band of the secondaries is almost wanting, being broken up into two or three spots close to the apex. Some specimens recently obtained by the British Museum from Colombia agree best with those from Chiriqui. I think it quite probable that the more southern form may prove to be a distinct species; but upon that point I do not at present feel certain, not having as yet a good series for comparison. I have figured a Chiriqui example, showing its difference from the more northern form, already figured in Mr. Butler's 'Lepidoptera Exotica.'

13. **Castnia zagrœa.** (Tab. IV. figg. 1, 2.)

Castnia zagrœa, Felder, Reise d. Novara, Zool. B. ii. t. 79. f. 2[1]; Westwood, Trans. Linn. Soc. ser. 2, Zool. i. p. 189[2].

Gazera zagrœa, Boisduval, Sp. Gén. des Lép.-Hét. p. 543.

Hab. CENTRAL AMERICA (*Salvin, mus. Felder*)[1]; PANAMA[2], Chiriqui (*Ribbe, mus. Staudinger*); Bugaba 800 to 1500 feet, Boqueron 1000 feet (*Champion*).

This fine species resembles *Papilio ascolius*, Felder, in its general coloration. The specimens figured, I believe to be sexes; but only having two examples, I am unable to determine this point with absolute certainty. Dr. Staudinger's specimen is a female, and agrees well in all respects with Dr. Felder's figure.

14. **Castnia salvina.**

Castnia salvina, Westwood, Trans. Linn. Soc. ser. 2, Zool. i. p. 190, t. 32. f. 1[1].

Hab. PANAMA, Veraguas (*Salvin, mus. Oxf.*[1]).

This species is very closely allied to *C. colombina*, Boisd., the only difference being the black margin of the secondaries. The only specimen known to me is the type in the Oxford Museum.

15. **Castnia linus.**

Papilio linus, Cram. Pap. Exot. iii. t. 257. f. A[1].

Castnia linus, Walk. Cat. i. p. 32[2].

Castnia heliconioides, Herr-Schäff. Samml. aussereur. Schm. t. 4. f. 15[3]; Westwood, Trans. Linn. Soc. ser. 2, Zool. i. p. 192[4].

Gazera linus, Boisd. Sp. Gén. des Lép.-Hét. p. 544[5].

Hab. GUATEMALA[2].—COLOMBIA (*mus. D.*); ECUADOR (*mus. D.*); GUIANA, Surinam[1]; AMAZONS, Santarem (*mus. D.*); NORTH BRAZIL[3 4] (*mus. D.*).

My only authority for including *Castnia linus* in our fauna is the specimen in the British Museum, said to be from Guatemala. As it is a southern species, I feel doubtful if it should be admitted without further confirmation of its occurrence within our limits.

Fam. ÆGERIIDÆ.

This family has received very varied treatment of late years, having been shifted about from place to place by various authors, and has not as yet found, so far as I can see, any position better suited for it than immediately preceding the Zygænidæ, following after the Sphingidæ. To some extent I agree with Mr. Butler that in many respects the Ægeriidæ appear to be allied to the Pyralidæ, but in others they most certainly are not. The flight of these moths is very different, that of the former being very rapid, and in many of the species resembling that of the Sphingidæ. They generally fly in the hottest sunshine, whereas the Pyralidæ are almost exclusively evening and night fliers.

I do not consider the fact of the larvæ being internal feeders should be taken very much into account as regards the position of the perfect insect; otherwise I do not see any reason why we should not divide the whole of the Heterocera into two divisions, namely, those the larvæ of which are internal feeders, and those that are not. But in so doing we should be compelled to place together forms that are utterly distinct as perfect insects, and in no other way allied to each other; and I think that it is quite impossible to base a classification on the earlier stages of the Heterocera until we are acquainted with the larvæ of most of the exotic species of which at present we know next to nothing.

SPHECIA.

Sphecia, Hübner, Verz. bek. Schmett. p. 127 (1816).

Six species are placed in this genus by Walker in his British Museum catalogue. They are very generally distributed over the globe, two species being found in the Palæarctic Region, three in the Oriental Region, and one in the Nearctic Region. A new species now described is the first recorded of this genus from the Neotropical Region.

1. **Sphecia championi,** sp. n. (Tab. V. figg. 4 ♂, 5 ♀.)

Male hyaline; primaries with the costal and inner margin black, the apex slightly shaded with golden yellow, a reddish-brown band at the end of the cell; secondaries hyaline, shaded with yellow, the fringe black, except on the inner margin, veins mostly black; palpi yellow beneath, reddish at the tips; antennæ reddish brown: thorax black, banded with brown and yellow; abdomen black with the segments banded with bright yellow; legs reddish yellow.

Female differs from the male in having the primaries almost all dark brown, excepting near the anal angle, where they are hyaline; in other respects the female agrees well with the male. Expanse of male $1\frac{1}{4}$ inch; female $1\frac{3}{5}$ inch.

Hab. GUATEMALA, near the city (*Champion*).

A male and female of this fine species were taken *in copulâ* by Mr. Champion on *Psidium guava.*

ÆGERIA.

Ægeria, Fabricius, Illig. Mag. vi. p. 288 (1807).

This genus contains a large number of species which are very generally distributed. In Central America it is well represented by fourteen species.

1. **Ægeria tryphoniformis.** (Tab. V. fig. 3.)

Ægeria tryphoniformis, Walk. Cat. viii. p. 48 [1].

Sesia tryphoniformis, Boisd. Sp. Gén. des Lép.-Hét. i. p. 443 [2].

Hab. GUATEMALA, Panzos (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*). —AMAZONS, Para, and Villa Nova [1 2].

The specimens agree well with Walker's type. The figure is from a Guatemala example.

2. **Ægeria senta,** sp. n. (Tab. V. fig. 1.)

Primaries hyaline, the costal margin, discal mark, and outer margin black; secondaries hyaline, the fringe black: head, thorax, and abdomen black; antennæ black; palpi white beneath, black above; collar white; legs black, with tufts of blackish hair on the tibiæ. Expanse $\frac{1}{2}$ inch.

Hab. GUATEMALA, Panzos (*Champion*).

A very small species, not nearly allied to any with which I am acquainted.

3. **Ægeria sellustiformis,** sp. n. (Tab. V. fig. 2.)

Primaries whitish hyaline, the costal margin and the apex black, the discal mark black; secondaries with the fringe only black: head, antennæ, and thorax blue-black; palpi white beneath, black above; legs black; tarsi banded with white. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

This species is allied to *Æ. producta*, but is a much larger insect.

4. **Ægeria ruficaudis.** (Tab. V. fig. 6.)

Ægeria ruficaudis, Walk. Cat. xxxi. p. 6 [1].

Sesia ruficaudis, Boisd. Sp. Gén. des Lép.-Hét. i. p. 451 [2].

Hab. PANAMA, San Feliz (*Champion*).—UPPER AMAZONS, Ega (*Bates* [1 2]).

The single specimen sent by Mr. Champion agrees well with Walker's type, but not with his description, as far as the wings are concerned.

5. **Ægeria deipyla,** sp. n. (Tab. V. fig. 8.)

Primaries hyaline, with a golden-yellow shade, the costal margin and the apex brown; discal band brown, edged with yellow, inner margin yellow; secondaries hyaline, the outer margin slightly banded with brown: head and thorax black, banded with yellow; palpi lemon-yellow; antennæ black above, beneath (excepting at the tips) reddish brown; abdomen black, with all the segments banded with yellow; the anal tuft black, tipped with white; beneath, the abdomen is bright yellow; legs pale yellow. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Bugaba, 800 to 1500 feet (*Champion*).

This species is not unlike *Æ. ichneumoniformis*, but differs in many respects.

6. **Ægeria producta.** (Tab. V. fig. 7.)

Ægeria producta, Walk. Cat. xxxi. p. 4 [1].

Sesia producta, Boisd. Sp. Gén. des Lép.-Hét. i. p. 449.

Hab. MEXICO [1], Oaxaca (*Sallé*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).

The type specimen is in poor condition. The species is allied to *Æ. rhyssæformis*, but still very distinct. The figure is taken from a Bugaba specimen.

7. **Ægeria læta.** (Tab. V. fig. 10.)

Ægeria læta, Walk. Cat. viii. p. 59.

Sesia læta, Boisd. Sp. Gén. des Lép.-Hét. i. p. 459.

Hab. GUATEMALA, San Gerónimo (*Champion*).

Walker's type is a very faded specimen, and without any locality; but it is without doubt the same as the Guatemala examples before me, one of which I have figured.

8. **Ægeria aurata.**

Ægeria aurata, H. Edwards, Papilio, i. p. 190.

Hab. PANAMA (*H. Edwards*).

Allied to *Æ. ceriiformis*, Led.

9. **Ægeria flava.**

Ægeria flava, H. Edwards, Papilio, i. p. 189.

Hab. PANAMA, Colon (*Mead*).

Size of *Æ. tipuliformis*.

10. **Ægeria guatemalena,** sp. n. (Tab. V. fig. 9.)

Hyaline: primaries slightly shaded with yellow near the base; the costal margin and apex brown; secondaries hyaline with the fringe brown in some lights; the wings are quite opalescent: head, palpi, and antennæ pale yellow beneath, above black; abdomen black, banded with yellow, the whole of the under surface pale yellow; legs yellow. Expanse $1\frac{1}{10}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

This species is allied to *Æ. cynipiformis* (Esp.), but is easily distinguished from that species by the opalescent colour of the wings, and the greater number of yellow bands on the abdomen.

11. **Ægeria tabogana,** sp. n. (Tab. V. fig. 16.)

Primaries dark brown, yellowish hyaline on the inner margin from the base to near the anal angle; secondaries hyaline, the outer margin slightly brown: head, thorax, and abdomen black, the back of thorax and the abdomen banded with yellow; antennæ black; palpi pale yellow; collar yellow; legs black above, yellowish white on the underside. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Taboga Island (*Champion*).

Mr. Champion only obtained a single specimen of this very distinct species.

12. **Ægeria ceres,** sp. n. (Tab. V. fig. 11.)

Primaries glossy black, greenish at the base, a small round hyaline spot beyond the cell near the anal angle; secondaries hyaline, the outer margin and fringe black: head, palpi, thorax, and abdomen black; anal tuft black; legs black, tarsi banded with yellow. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, Totonicapan 8500 to 10,500 feet (*Champion*).

This species is very distinct. Only a single specimen has been sent.

13. **Ægeria proserpina,** sp. n. (Tab. V. fig. 13.)

Primaries glossy greenish black; secondaries dull black, the basal third hyaline: head, palpi, and antennæ black, the collar and underside of thorax reddish brown; upperside of thorax and all the legs black; abdomen wanting. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

A small species, very distinct from any with which I am acquainted. Only a single specimen was received.

14. **Ægeria geliformis.** (Tab. V. figg. 12 & 17, ♂ ♀.)

Ægeria geliformis, Walk. Cat. vii. p. 46 [1].

Ægeria geliformis, H. Edwards, Papilio, i. t. 4. f. 7, 7A, p. 208 [2].

Sesia geliformis, Boisd. Sp. Gén. des Lép.-Hét. i. p. 441 [3].

Hab. North America, United States [1 2 3].—Mexico, Jalapa (*Höge*).

The type specimen of this species is in very bad condition, being much rubbed and worn, and the figure given by Mr. Edwards has far too much colour on the anterior wings. I have both sexes before me, and have figured them from fresh Mexican examples.

MELITTIA.

Melittia, Hübner, Verz. bek. Schmett. p. 128 (1816).

This genus is very generally distributed, its headquarters being Asia. The American species are rather smaller insects, and not nearly so thickly covered with scale-like hairs. In other respects they do not differ from their Asiatic allies.

About eighteen species of this genus are enumerated by Walker in his Catalogue, three only occurring in our country.

1. **Melittia satyriniformis.**

Melittia satyriniformis, Hübner, Samml. exot. Schmett. f. 453, 454, p. 17 [1]; Boisd. Sp. Gén. des Lép.-Hét. i. p. 471 [2].

Melittia pulchripes, Walk. Cat. viii. p. 67 [3].

Hab. North America [2].—Mexico, Valladolid in Yucatan (*Gaumer*); Guatemala, San Gerónimo (*Champion*).—Venezuela; Lower Amazons [3].

2. **Melittia ceto.**

Melittia ceto, Westw. Cab. Orient. Ent. 62, t. 30. f. 6 [1]; Walk. Cat. viii. p. 66 [2].

Hab. North America.—Guatemala, San Gerónimo (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This appears to be a rare insect. Mr. Champion has only sent two specimens.

3. **Melittia butleri**, sp. n. (Tab. V. fig. 15.)

Like *M. satyriniformis*, but with the primaries quite hyaline, the costal margin slightly black, the hair on the hind legs dusky brown, without red.

Hab. Mexico, Oaxaca (*Sallé, mus. Brit.*).

A very distinct species.

TIRISTA.

Tirista, Walk. Cat. xxxi. p. 22 (1864).

This genus is allied to *Melittia* and to *Tarsa*. It only contains a single species.

1. **Tirista argentifrons.** (Tab. V. fig. 14.)

Tirista argentifrons, Walk. Cat. xxxi. p. 22.

Hab. MEXICO, Oaxaca (*Sallé*).

The type of this species and the only specimen known to me is in the British Museum.

SINCARA.

Sincara, Walk. Cat. viii. p. 61 (1856).

This genus was founded by Walker for the reception of an insect sent home by Mr. Bates from Para. It is allied to *Melittia*, from which it differs in its more robust form and short thick antennæ, also in its being without the hair on the hind legs.

1. **Sincara phyllis**, sp. n. (Tab. V. fig. 18.)

Primaries slightly hyaline, brownish yellow at the base, the costal and inner margin orange-yellow; secondaries hyaline, the fringe brown: head, thorax, and abdomen blackish brown, the front of the thorax slightly yellow, the third segment of the abdomen yellow; palpi and collar yellow; antennæ black, yellowish at the base; legs brown. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Cerro Zunil (*Champion*).

I have only received a single specimen of this insect, in very poor condition, and do not feel certain about the yellow markings on the thorax and abdomen.

2. **Sincara cambyses**, sp. n. (Tab. V. fig. 19.)

Primaries whitish hyaline, the costal margin and apex black; secondaries hyaline, the outer margin and fringe slightly black: head, thorax, and abdomen black; antennæ and legs black, the tarsi speckled with a few yellowish hairs. Expanse $\frac{3}{5}$ inch.

Hab. PANAMA, Bugaba (*Champion*).

A small species, of which only a single specimen has been sent. It closely resembles typical *Ægeria*, excepting its short thick antennæ, which are characteristic of the genus *Sincara*.

3. **Sincara lytæa**, sp. n. (Tab. V. fig. 20.)

Primaries hyaline, yellowish near the base; the costal margin and apex slightly brownish black; secondaries hyaline, the fringe brown: head, thorax, and antennæ black; palpi greyish white below, above black; abdomen black, each segment banded with white, the anal tuft greyish white; legs black, speckled with a few white hairs. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, Zapote (*Champion*).

Only one example of this curious little species appears to have been taken.

SANNINA.

Sannina, Walk. Cat. viii. p. 63 (1856).

Four species of this genus have been described by Walker—one from North America,

two from Borneo, and one from Cambodia. I have not seen specimens of any of the eastern species, but think it is quite possible that upon a careful examination they may prove to belong to another genus.

1. **Sannina verrugo,** sp. n. (Tab. V. fig. 21.)

Primaries bright orange-red, slightly black at the base and apex, the fringe on the outer margin broad and black; secondaries bright orange, slightly hyaline, the fringe from the apex to the anal angle black: head, thorax, abdomen, palpi, antennæ, and legs all glossy black. Expanse 1½ inch.

Hab. MEXICO, Esperanza (*Höge*).

Only a single example of this fine insect was sent. It is allied to *S. uroceriformis*, Walk., from North America.

2. **Sannina korites,** sp. n. (Tab. V. fig. 22.)

Primaries reddish orange, the base, half the costal margin, and the veins black; secondaries orange, the base hyaline, bordered with black on the outer margin: head, thorax, and abdomen black; legs greenish black; antennæ pale yellow. Expanse 1¼ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Rio Sucio (*Rogers*).

This species is allied to *S. verrugo*, the chief difference being the hyaline spots at the base of the secondaries and the pale yellow antennæ, and also its smaller size.

Fam. AGARISTIDÆ.

The representatives of this family in the New World are few, Asia and Africa being its headquarters. I at present know of a very small number of genera that are found in the Neotropical Region, one of those being the curious genus *Hecatesia*, the only other representatives of which are from Australia.

PSEUDALYPIA.

Pseudalypia, H. Edwards, Proc. Calif. Acad. v.

1. **Pseudalypia crescens.**

Eusemia crescens, Walk. Cat. vii. p. 1774[1].
Agarista grotei, Boisd. Lép. de la Calif. p. 70[2].
Alypia grotei, Boisd. Rev. et Mag. de Zool. 1874, p. 64[3].
Alypia (*Agarista*) *grotei,* H. Edwards, Papilio, iv. p. 13[4].

Hab. MEXICO[1] (*Glennie, mus. Brit.*); Sonora (*Lorquin*[2]), State of Vera Cruz (*Schaus*[4]), Jalapa (*Höge*), Guanaxuato (*Boucard, mus. D.*).

The specimen from Jalapa differs slightly from Walker's type by having a second minute white spot on the posterior wing; but in all other respects it agrees well with it.

2. **Pseudalypia bimaculata.**

Agarista bimaculata, Herr.-Schäff. Auss. Schmet. p. 71, f. 26 [1].

Agarista trimaculata, Boisd. Rev. et Mag. de Zool. 1874, p. 65 [2].

Hab. Mexico [1] [2].

This insect is only known to me by Herrich-Schäffer's figure; but I cannot agree with Mr. Kirby in considering it a variety of the preceding species.

ALYPIA.

Alypia, Hübner, Verz. bek. Schmett. p. 351; Packard, Proc. Essex Institute, iv. p. 23.

This genus contains about twenty species, only one of which occurs in our country.

1. **Alypia octomaculata.**

Zygæna octomaculata, Fabr. Ent. Syst. iii. 1, p. 402.

Sphinx octomaculata, Cram. Pap. Exot. iv. t. 345. f. C [1]; Hübner, Samml. exot. Schmett. f. 119, 120; Smith & Abbot, Ins. Georg. i. p. 87, t. 44 [2].

Alypia quadriguttalis, Hübner, Verz. p. 351.

Alypia disparata, H. Edwards, Papilio, iv. p. 13 [3]?

Hab. North America [2].—Mexico, Cordova (*Rümeli*), Jalapa (*Höge*).—Guiana [2].

This species appears to be pretty common in Mexico; but as yet I have not seen any specimens from any locality further south. I very much doubt the locality given by Cramer being correct.

Mr. H. Edwards has recently described a species of this genus from Mexico [3], and this may be represented by our specimens from the State of Vera Cruz. With the materials before me I am not in a position to give a positive opinion as to its specific value.

HECATESIA.

Hecatesia, Boisduval, Monogr. Zygæn. p. 11; Walker, Cat. i. p. 54; Westwood, Trans. Linn. Soc. ser. 2, i. p. 199.

Professor Westwood, in his paper on *Castnia* and allied groups, places three species in this genus, all coming from the Australian region. I have recently received from Mr. Champion a fourth species, the neuration of the males being exactly the same as in those from Australia.

1. **Hecatesia falcata,** sp. n. (Tab. V. figg. 23 ♂, 24 ♀.)

Primaries of the males dark brown, marked with paler streaks of the same colour; two narrow greenish-brown lines crossing the wing from the outer side of the vitreous spot on the costal margin to near the anal angle; a narrow yellowish line from the base extending to the middle of the wing, which is thickly speckled with greyish-white scales; secondaries bright chrome-yellow, very broadly bordered with dark brown: head, thorax, and a tuft of hairy scales at the base of the abdomen dark reddish brown, the abdomen pale chrome-yellow; antennæ brown above, silvery white on the underside; legs yellowish brown; the underside of the primaries and secondaries pale yellow, with the outer margins of both wings

broadly banded with brown. The female is very much the same as the male, excepting that it is larger, the primaries are less distinctly marked and rather redder brown in colour. Expanse, ♂ 1½, ♀ 2 inches.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*); Volcan de Chiriqui (*mus. Staudinger*).

Of this very interesting species I have before me three males and one female. The males do not differ in any respect, excepting that in two of the examples the vitreous spot is much more transparent, evidently caused by the specimens having been longer on the wing, and having rubbed off some of the long scales.

PHASIS.

Phasis, Walk. Cat. ii. p. 312.

Walker founded this genus for the reception of a single insect, collected by Mr. Bates on the Amazons. It now contains six or seven species, mostly from South America, two only as yet having been received from our country. It is allied to the eastern genus *Eusemia*; but I consider it nearer the genus *Orthia*. Walker placed it with the Lithosiidæ.

1. Phasis tribuna.

Ephialtias tribuna, Hübn. Zutr. zu Samml. exot. Schmett. f. 491, 492 [1].
Josia (*Thyrgis*) *tribuna,* Walk. Cat. ii. p. 317 [2].
Josia? *continua,* Walk. Cat. vii. p. 1646 [3].

Hab. BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*); GUATEMALA, Panima (*Champion*); NICARAGUA, Chontales (*T. Belt*).—ST. DOMINGO (*Tweedie*) [3].—CUBA [1 2] (*Carter, mus. D.*).

This species varies to some extent in the width of the yellow centre of the secondaries, a Cuban example being precisely the same as those from Nicaragua.

2. Phasis separata.

Josia? *separata,* Walk. Cat. vii. p. 1645 [1].

Hab. HONDURAS, San Pedro (*G. M. Whitely, mus. D.*); PANAMA, Bugaba (*Champion*). —COLOMBIA [1], ECUADOR, and EAST PERU (*mus. D.*).

This pretty species seems a very scarce insect in Central America, whence I have only received two specimens. In Ecuador and Peru it is rather common.

Fam. ZYGÆNIDÆ.

Subfam. *ZYGÆNINÆ*, Butler.

This subfamily includes the genus *Zygæna* of Fabricius (which is not represented in our country), also the genus *Procris* and other allied genera. The species are by no means common, judging by the small number of specimens received.

PROCRIS.

Procris, Fabricius, Illiger's Magazine, vi. p. 289.

Walker in his 'Catalogue' places about twenty species in this genus, which appears to be very widely distributed. He only mentions one species from the Neotropical Region.

1. **Procris pusilla.**

Procris pusilla, Walk. Cat. i. p. 112[1]; Butl. Ill. Lep. Het. i. p. 14, t. 6. f. 1.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).—VENEZUELA [1].

I have only received one specimen of this insect which it agrees fairly well with the type in the British Museum.

2. **Procris thyana,** sp. n. (Tab. VI. fig. 7.)

Primaries and secondaries semitransparent black, with the costal and outer margins rather darker: the head, antennæ, and legs black; thorax and abdomen slightly glossy greenish black. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, Quiche Mountains 9000 feet (*Champion*).

Two specimens of this species were obtained by Mr. Champion. The specimen figured I believe to be the male. The female is rather larger and paler in colour.

3. **Procris forreri,** sp. n.

Primaries and secondaries uniform semitransparent sooty black: head, antennæ, thorax, and abdomen deep black; legs also black. Expanse $\frac{2}{3}$ inch.

Hab. MEXICO, Milpas 5900 feet (*Forrer*).

This species is nearly allied to the preceding, from which it chiefly differs in its much smaller size and rather narrower primaries. Three examples were obtained.

4. **Procris thyesta,** sp. n. (Tab. VI. fig. 6.)

Primaries and secondaries semitransparent black, the veins slightly greenish; antennæ and front of the head black; the back of the head and front half of the thorax dark chrome-yellow; abdomen and legs black. Expanse 1 inch.

Hab. GUATEMALA, Dueñas (*Champion*).

This species is most nearly allied to *P. thyana*.

TRIPROCRIS.

Triprocris, French, Papilio, iii. p. 191.

I have not found any other reference to the description of this genus, which I can only recognize from the species from Arizona, described by Mr. French as *T. martenii*.

1. **Triprocris aversus.**

Triprocris aversus, H. Edwards, Papilio, iv. p. 13 [1].

Hab. Mexico, State of Vera Cruz (*Schaus* [1]).

Unknown to me.

PSEUDOPROCRIS, gen. nov.

Allied to the preceding genus, much about the same size, but with the primaries rather more rounded at the apex; the neuration nearly the same, excepting that the cell is slightly longer; secondaries same as *Procris*. Head small; the palpi very minute. Antennæ very long, quite two thirds the length of the wing, not pectinated, but quite thick, and almost clubbed at the end. Thorax and abdomen thick; the abdomen extending about one third of its length beyond the secondaries. Legs moderately stout.

1. **Pseudoprocris gracilis,** sp. n. (Tab. VI. fig. 3.)

Primaries greenish, shot with black; secondaries hyaline at the base, and in the middle the costal and outer margin brownish green; the underside of both primaries and secondaries glossy bluish green: head, thorax, and abdomen green, very bright on the upper side; antennæ bright glossy green, the tip black; legs greenish black. Expanse $1\frac{1}{10}$ inch.

Hab. Mexico, Jalapa (*Höge*), Milpas 5900 feet (*Forrer*).

This and the following species differ from all the described forms known to me by their extremely long antennæ. The specimen from Milpas is much browner in colour; but this may arise from its being a very worn specimen.

2. **Pseudoprocris dolosa,** sp. n.

Primaries semitransparent black, the costal, outer, and inner margins black; secondaries hyaline, excepting the costa and apex, which are dusky: head, antennæ, thorax, and legs black; abdomen wanting. Expanse 1 inch.

Hab. Guatemala, Calderas (*Champion*).

A single example, in very poor condition, has been received of this insect. It resembles in colour *Procris thyesta*; but the antennæ at once show that it is more closely allied to *Pseudoprocris gracilis*.

SERYDA.

Seryda, Walker, Cat. vii. p. 1598.

Walker founded this genus for the reception of a species sent by Mr. Bates from the Amazons.

1. **Seryda megalops,** sp. n. (Tab. VI. fig. 5.)

Primaries and secondaries uniform semitransparent greenish black, slightly darker on the costal and outer margins of the primaries: head, thorax, and abdomen black, glossed with green; antennæ very deeply pectinated, rather long, being quite two thirds the length of the wing; legs black; a tuft of hair on each side of the anus extending some way beyond, forming a small brush-like appendage. Expanse $1\frac{3}{4}$ inch.

Hab. Guatemala, Capetillo (*Champion*).

Only a single example of this very distinct insect was sent. I have placed it in this genus with considerable hesitation, not having seen Walker's type; it agrees well in all respects with his description, excepting that it is a very much larger species.

Subfam. *PHÆUDINÆ.*

URODUS.

Urodus, Herrich-Schäffer, Samml. aussereur. Schmett. p. 80, fig. 219.

Herrich-Schäffer founded this genus for the reception of two insects from Venezuela. They are very scarce in collections, most likely owing to their being overlooked by collectors on account of their great resemblance to flies.

1. **Urodus monura.**

Urodus monura, Herr.-Schäff. Samml. aussereur. Schmett. f. 219[1]; Walk. Cat. vii. p. 1630; Butl. Journ. Linn. Soc. Zool. xii. p. 360[2].

Hab. PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).—VENEZUELA[1]; LOWER AMAZONS, Para (*Bates*[2]).

Of this species I have seen but very few examples. It does not appear that its range extends northwards beyond the Volcano of Chiriqui, Champion never having met with it in any other locality.

2. **Urodus ruficollis,** sp. n. (Tab. VI. fig. 11.)

Primaries and secondaries black, the latter slightly hyaline near the base: head and antennæ black, with a bright orange-red collar; thorax and abdomen dull black; legs black. Expanse $\frac{1}{2}$ inch.

Hab. GUATEMALA, Senahu (*Champion*).

A single example of this insect was sent; it differs from all the other species of *Urodus* known to me in having a red collar.

3. **Urodus modesta,** sp. n.

Primaries dark purplish brown, slightly glossy near the outer margin; secondaries dusky hyaline, with the margins black: head, thorax, abdomen, antennæ, and legs all dull black. Expanse $\frac{1}{2}$ inch.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*).

Of this pretty little species I have received a considerable number of specimens, but only from the locality mentioned; neither have I any evidence of its occurrence in any other place.

4. **Urodus imitata,** sp. n.

Primaries uniform glossy brown; secondaries hyaline, with the outer margins very narrowly bordered with brownish black: head, thorax, and abdomen black; legs brownish black; antennæ wanting. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

This species is closely allied to *U. modesta,* the chief difference being its larger size and hyaline secondaries. Only a single example was sent.

PAMPA.

Pampa, Walker, Cat. i. p. 238; Butler, Journ. Linn. Soc., Zool. xii. p. 360, t. 28. f. 13.

Walker founded this genus for the reception of several species; it has since been restricted by Mr. Butler, who now only places two of Walker's species in it: they are both small insects, only one of them occurring in our country.

1. **Pampa mystica.**

Euchromia mystica, Walk. Cat. i. p. 239[1].

Pampa mystica, Butl. Journ. Linn. Soc., Zool. xii. p. 360.

Hab. GUATEMALA, Lanquin (*Champion*); HONDURAS (*Dyson*)[1].

A single specimen of what I believe to be this species was sent.

HARRISINA.

Harrisina, Packard, Proc. Essex Institute, iv. p. 31 (1864); Stretch, Zyg. & Bomb. of N. America, p. 178.

This genus is well characterized by Dr. Packard in his notes on the family Zygænidæ.

1. **Harrisina americana.**

Aglaope americana, Boisd., Griff. Cuv. Reg. An. Lep. t. 84. f. 11.

Procris americana, Boisd. Sp. Gén. Lép. t. 16. f. 7.

Harrisina americana, Packard, Proc. Essex Inst. iv. p. 31; Stretch, Ill. Zygænidæ and Bombycidæ of North America, p. 180.

Hab. NORTH AMERICA, Arizona (*Morrison, mus. D.*).—GUATEMALA, San Gerónimo, San Juan in Vera Paz (*Champion*).

2. **Harrisina guatemalena,** sp. n. (*Aglaope guatemalena.* Tab. VI. fig. 10.)

Primaries and secondaries uniform semitransparent dull black: head, antennæ, thorax, and abdomen black. Expanse ½ inch.

Hab. GUATEMALA, El Reposo (*Champion*).

One specimen only of this small species was obtained.

3. **Harrisina rümelii,** sp. n.

Primaries and secondaries uniform glossy black: the head and front half of the thorax pale yellow; antennæ black; the abdomen black, shot with dark blue; legs black. Expanse 1 inch.

Hab. MEXICO, Cordova (*Rümeli*).

Only a single example of this insect was sent. It is allied to *H. texana*.

PYROMORPHA.

Pyromorpha, Herrich-Schäffer, Samml. aussereur. Schmett. t. 43. f. 222.

This genus is well characterized by Mr. Stretch in his work on the Zygænidæ and

Bombycidæ of North America (p. 33). Walker placed it in the Lithosiidæ, but gives no reason for so doing.

1. **Pyromorpha dimidiata.**

Pyromorpha dimidiata, Herr.-Schäff. Samml. aussereur. Schmett. t. 43. f. 222[1].

Malthaca perlucidula, Clem. Proc. Acad. Nat. Sci. Phil. 1860, p. 541.

Hab. NORTH AMERICA[1].—MEXICO, Jalapa (*Höge*).

The Mexican examples agree well with Herrich-Schäffer's figure.

2. **Pyromorpha cinniana.** (*Procris cinniana*, Tab. VI. fig. 12.)

Primaries brownish black, slightly yellow along the costal margin; secondaries pale yellow, the costal and outer margins broadly bordered with brownish black: head and antennæ black; front of thorax pale yellow; thorax, abdomen, and legs black. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, Capetillo (*Champion*).

Of this pretty little species only a single example was sent.

LYCOMORPHA.

Lycomorpha, Harris, Amer. Journ. Sci. & Arts, xxxvi. no. 2.

1. **Lycomorpha mexicana,** sp. n. (Tab. VIII. fig. 1.)

Primaries from the base, for about two thirds of the length, brownish yellow, the apical third deep black; secondaries black, slightly yellowish hyaline at the base: head and antennæ black; front and sides of thorax deep yellow; back of thorax and abdomen black; legs black. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Presidio (*Forrer*).

2. **Lycomorpha anacreon,** sp. n. (*Procris anacreon*, Tab. VI. fig. 4.)

Primaries pale yellow, the apex and outer margin narrowly banded with greenish black, a small black streak on the inner margin from the base to nearly the middle; secondaries yellow, much darker from the base to the middle, the apex slightly black: head and antennæ black, thorax yellowish; abdomen and legs black. Expanse $1\frac{1}{2}$ inch.

Hab. COSTA RICA, Irazu (*Rogers*).

This is a very distinct species.

3. **Lycomorpha contermina.**

Lycomorpha contermina, H. Edw. Papilio, iv. p. 13[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*[1]).

4. **Lycomorpha marginata.**

Lycomorpha marginata, H. Edw. Papilio, iv. p. 13[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*[1]).

I do not recognize either of these species, recently described from Mexico.

Subfam. *EUCHROMIINÆ.*

Euchromiinæ, Butler, Journ. Linn. Soc., Zool. xii. p. 361.

HISTICEA.

Histicea, Walk. Cat. i. p. 216 (1854).

This genus contains about eight or nine species, all very much alike in pattern and colour. Only one species, so far as I at present know, occurs in our country, the others being all from South America.

Histicea meldolæ. (Tab. VI. fig. 14.)

Histicea meldolæ, Butl. Journ. Linn. Soc., Zool. xii. p. 362[1]; Aid Ident. Ins. i. t. 63.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).—VENEZUELA[1]; TRINIDAD[1].

Mr. Champion states that he only found this insect in the thick forest. It is very closely allied to *H. bellatrix* from Colombia, a species which seems to vary to a considerable extent.

SYNTOMEDIA.

Syntomedia, Harris, Silliman's Amer. Journ. Sci. & Arts, xxxvi. p. 316 (1839).

1. Syntomedia albifasciata.

Syntomedia albifasciata, Butl. Journ. Linn. Soc., Zool. xii. p. 366[1].

Hab. MEXICO, Jalapa (*Höge*); HONDURAS[1].

2. Syntomedia melanthus.

Sphinx melanthus, Cr. Pap. Exot. iii. t. 248. f. C[1].

Euchromia melanthus, Walk. Cat. i. p. 229; Cat. vii. p. 1626[2].

Syntomedia melanthus, Butl. Journ. Linn. Soc., Zool. xii. p. 366[3].

Sphinx nycteus, Cr. Pap. Exot. iv. t. 325. f. F.

Hab. MEXICO, Cordova (*Rümeli*), Ventanas, Milpas, and Presidio (*Forrer*), Jalapa (*Höge*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, San Gerónimo (*Champion*); HONDURAS; NICARAGUA, Chontales (*Belt, Janson*); COSTA RICA (*Van Patten, mus. D.*), Irazu (*Rogers*); PANAMA, Caldera (*Champion*).—VENEZUELA[2 3]; GUIANA, Surinam[1]; EAST PERU (*mus. D.*).

This species has a very extended range, and seems to be subject to a slight amount of variation. The examples before me from Guatemala have all the pale markings much smaller than in the specimens from Mexico, but in other respects do not differ. *Sphinx nycteus,* Cramer, is the female of this species. I have the male and female *in copulâ,* taken by M. Boucard in Mexico.

3. Syntomedia saulcyi.

Glaucopis saulcyi, Guérin, Ic. Règ. Anim. p. 502[1].
Endera saulcyi, Butl. Journ. Linn. Soc., Zool. xii. p. 367.
Calonota? niveifascia, Walk. Cat. vii. p. 1628.

Hab. Mexico, Cordova (*Rümeli*).—Martinique[1].

This species is closely allied to *S. melanthus*, and I consider much better placed here than in the genus *Endera*.

4. Syntomedia epilais.

Euchromia (*Hippola*) *epilais*, Walk. Cat. i. p. 227[1].
Syntomedia epilais, Butl. Journ. Linn. Soc., Zool. xii. p. 366; Ill. Lep. Het. i. p. 23, t. viii. f. 5.

Hab. Mexico, Yucatan (*Gaumer*); British Honduras[1], Rio Sarstoon (*Blancaneaux*).

This species seems to be peculiar to Mexico and Honduras. I have not seen any specimens from any other locality.

ENDERA.

Endera, Walker, Cat. i. p. 228 (1854).

Walker founded this genus upon a Mexican insect, and then included in it six other species belonging to very different genera. Mr. Butler, in his notes on the family Zygænidæ, restricts it to *E. vulcanus*, the type of Walker's genus, and *Glaucopis saulcyi*, Guérin, a species I consider much more closely allied to *Syntomedia*, to which I have removed it.

1. Endera vulcanus.

Euchromia (*Endera*) *vulcanus*, Walk. Cat. i. p. 228[1].
Glaucopis vulcanus, Herr.-Schäff. Samm. aussereur. Schmett. f. 295.
Endera vulcanus, Butl. Journ. Linn. Soc., Zool. xii. p. 367.

Hab. Mexico[1].

This species is well figured by H.-Schäffer. The type is in the British-Museum collection; it is the only specimen that I am acquainted with.

EUPYRA.

Eupyra, Herrich-Schäffer, Samml. aussereur. Schmett. p. 78.

This genus contains about seven species, two of which occur in our country.

1. Eupyra principalis.

Eupyra principalis, Walk. Cat. xxxi. p. 97; Butl. Journ. Linn. Soc., Zool. xii. p. 367.

Hab. Mexico, Oaxaca (*Sallé, mus. Brit.*).

This fine species is closely allied to *E. regalis*, Herr.-Schäff. The only specimen known to me is the type in the British Museum.

2. **Eupyra corydon,** sp. n. (Tab. VI. fig. 13.)

Primaries glossy black, thickly speckled with green scales; a narrow green band crossing the wing close to the base; two small hyaline spots about the middle of the cell, three at the end, second and third very minute, and four beyond nearer the apex; secondaries black, with a central band of four bluish hyaline spots, the fourth below the others and close to the apex: head, thorax, and abdomen black, two white spots on each side of the thorax; antennæ black, rather deeply pectinated; legs black. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Senahu (*Champion*).

This appears to be a very scarce insect. Mr. Champion only obtained a single specimen. Dr. Staudinger has sent me a specimen also from Guatemala, but without the exact locality.

CALONOTOS.

Calonotos, Hübner, Verz. bek. Schmett. p. 123; Walk. Cat. i. p. 234.

Mr. Butler has divided this genus into three sections; but I am not able to see his reason for so doing; the insects placed in these sections differ considerably, and I should have thought them worthy of generic distinction; but not having a sufficient number of specimens I am unable to determine this point.

1. **Calonotos nexa.**

Læmocharis nexa, Herr.-Schäff. Samml. aussereur. Schmett. f. 254; Walk. Cat. vii. p. 1627.
Calonotos nexa, Butl. Journ. Linn. Soc., Zool. xii. p. 368[1].

Hab. MEXICO, Valladolid, Yucatan (*Gaumer*); GUATEMALA, Cubilguitz (*Champion*).—UPPER AMAZONS[1].

The specimens of this insect from Mexico are the smallest I have seen; but in other respects they do not differ in any way.

2. **Calonotos tiburtus.**

Sphinx tiburtus, Cram. Pap. Exot. iii. t. 237. f. C[1].
Calonotos tiburtus, Hübn. Verz. bek. Schmett. p. 12.
Euchromia tiburtus, Walk. Cat. i. p. 244.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*); Volcan de Chiriqui (*Trötsch, mus Staudinger*).—GUIANA, Surinam[1].

I have specimens of both sexes before me; they agree well with Cramer's figure, being closely allied to *C. nexa.*

3. **Calonotos interrupta.**

Calonota interrupta, Walk. Cat. vii. p. 1628[1].

Hab. MEXICO[1].

4. **Calonotos trotschi,** sp. n. (Tab. VIII. fig. 8.)

Primaries black, crossed beyond the middle by a band of four hyaline spots, the first and second close to the costal margin quite small, the third and fourth larger, three elongated streaks near the base bluish hyaline; secondaries black, with the base and a small spot near the apex hyaline: head black, with a

minute white spot on each side; antennæ and palpi black; thorax and abdomen greenish black, the side of the abdomen chrome-yellow; legs black.

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

This species is nearly allied *C. sandion*, from which it differs in all the hyaline spots being much smaller and the bright yellow sides of the abdomen.

5. **Calonotos metallicus,** sp. n. (Tab. VIII. fig. 2.)

Primaries black, with a white spot at the base; a semitransparent round white spot beyond the cell close to the costal margin; a small golden-coloured streak in the middle of the wing close to the base: secondaries black, with a small white spot on the costal margin near the middle; this spot is only seen when the primaries are set well forward: head black, white in front; palpi black; thorax black, with six minute white spots in front, and a large round golden spot at the base; abdomen golden yellow, with a black line on each side; the underside white, margined with black. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion, Ribbe, mus. Staudinger*).

This species is allied to *C. phlegmon*, Fabr. The examples before me are all males.

AMYCLES.

Amycles, Herrich-Schäffer, Samml. aussereur. Schmett. f. 231.

The neuration of the secondaries is figured by Mr. Butler in his paper on the Zygænidæ. This genus contains about five species, most of them resembling Hymenopterous insects.

1. **Amycles postica.**

Pampa postica, Walk. Cat. vii. p. 1630[1].

Amycles postica, Butl. Journ. Linn. Soc., Zool. xii. p. 369.

Hab. PANAMA, Bugaba (*Champion*).—LOWER AMAZONS, Santarem[1].

I have only received a single example of this species from Mr. Champion, which agrees well with the type in the British Museum.

2. **Amycles flavifascia.**

Amycles flavifascia, Herr.-Schäff. Samml. aussereur. Schmett. f. 231[1]; Butl. Journ. Linn. Soc., Zool. xii. p. 369.

Pampa flavifascia, Walker, Cat. vii. p. 1630.

Pampa aliena, Walk. l. c. i. p. 241.

Hab. GUATEMALA, Panima (*Champion*).—E. PERU (*mus. D.*); BRAZIL[1].

Only a single example of this species was received; it agrees well with Herrich-Schäffer's figure, and also with specimens before me from East Peru.

3. **Amycles albomarginata,** sp. n. (Tab. VII. fig. 26.)

Primaries black shading to brown, the apical portion white. Secondaries hyaline, the outer margin broadly banded with black: head, thorax, and abdomen black; antennæ and legs black. Expanse 1 inch.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

This species is allied to *A. flavifascia*, from which it chiefly differs in having the secondaries hyaline.

4. **Amycles strigosa,** sp. n. (Tab. VIII. fig. 3.)

Primaries brown, excepting at the apex and a central narrow semihyaline streak extending from the base to the outer margin; secondaries brownish black, slightly hyaline at the base: head, thorax, and abdomen dull black; antennæ and legs black, the former tipped with yellowish white. Expanse 1 inch.

Hab. GUATEMALA, Teleman (*Champion*).

This species closely resembles a black wasp from the same locality, and, like the other species of *Amycles*, it is found flying in the hottest sunshine.

5. **Amycles flavicollis,** sp. n. (Tab. VII. fig. 11.)

Primaries black, with a central hyaline streak from the base to beyond the middle; secondaries hyaline, the outer margin bordered with black: head, thorax, and abdomen black; collar bright yellow; antennæ slightly pectinated, black at the base, the tips white; legs black. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, Zapote, Panzos (*Champion*).

This small species is very distinct from any other, and it is with considerable hesitation that I have placed it in this genus. I have only a very few examples; but, as far as I can see, the neuration is the same as *Amycles postica*.

PSOLOPTERA.

Psoloptera, Butler, Journ. Linn. Soc., Zool. xii. p. 369 (1876).

This genus was founded by Mr. Butler upon Walker's *Euchromia thoracina*. It seems to me to be very closely allied to *Ichoria*. At present only two species are known, one of which occurs in our country.

1. **Psoloptera thoracina.**

Euchromia (*Autochloris*) *thoracina,* Walk. Cat. i. p. 243 [1].

Psoloptera thoracina, Butl. Journ. Linn. Soc., Zool. xii. p. 369; Ill. Lep. Het. i. p. 24, t. 8. f. 6.

Hab. GUATEMALA (*Boucard, mus. D.*); PANAMA, Chiriqui and Bugaba (*Ribbe & Champion*).—AMAZONS, Ega [1]; ECUADOR (*mus. D.*).

The specimens from our country agree well in all respects with the type. It appears to be a scarce insect; I have only received very few examples.

SAURITA.

Saurita, Herr.-Schäff. Samml. aussereur. Schmett. p. 23.

1. **Saurita cassandra.**

Sphinx cassandra, Linn. Syst. Nat. ii. p. 806. 41; Cr. Pap. Exot. iv. t. 394. f. G.

Glaucopis cassandra, Anon. Ins. Surinam, pt. 85; Hübn. Samml. exot. Schmett. t. 164. f. 1–4.

Euchromia cassandra, Walk. Cat. i. p. 236 [1 2].

Saurita cassandra, Butl. Journ. Linn. Soc., Zool. xii. p. 370.

Hab. MEXICO, Cordova (*Rümeli*); COSTA RICA, Irazu (*Rogers*).—VENEZUELA [1]; BRAZIL [2].

This appears to be a very variable species; the Mexican examples are very much darker-coloured than those from Costa Rica. Hübner's figures are intermediate between the two.

ICHORIA.

Ichoria, Butler, Journ. Linn. Soc., Zool. xii. p. 370.

Mr. Butler places three species in his genus. In Central America these insects seem to be very rare; I have only received two examples of Walker's species.

1. **Ichoria quadrigutta.**

Euchromia (*Aclytea*) *quadrigutta,* Walk. Cat. i. p. 245 [1].

Ichoria quadrigutta, Butl. Journ. Linn. Soc., Zool. xii. p. 370; Ill. Lep. Het. pt. i. p. 25, t. 10. f. 1.

Hab. Mexico [1]; Guatemala (*Staudinger*); Costa Rica (*Van Patten and Boucard, mus. D.*).

2. **Ichoria lycone,** sp. n. (Tab. VI. fig. 9.)

Primaries and secondaries, upper and underside uniform blackish brown; antennæ slightly pectinated: head, thorax, and abdomen black; a blue dot on the back of the head, and one at the base of the thorax, also a bright red spot on each side of thorax and a central red spot on the first segment of the abdomen; legs black.

Hab. Costa Rica, Irazu and Rio Sucio (*Rogers*); Panama, Volcan de Chiriqui (*Champion*).

The figure is from a Chiriqui specimen.

MACROCNEME.

Macrocneme, Hübner, Verz. bek. Schmett. p. 124; Walker, Cat. i. p. 248.

This genus is well represented by six species in our country, three of them being new.

1. **Macrocneme leucostigma.**

Glaucopis leucostigma, Perty, Delect. t. 31. f. 11 [1].

Macrocneme leucostigma, Butl. Journ. Linn. Soc., Zool. xii. p. 371 [2].

Hab. Mexico (*Boucard, mus. D.*); British Honduras, Rio Sarstoon (*Blancaneaux*); Guatemala, San Isidro, Zapote, Tamahu, Panzos (*Champion*); Costa Rica, Cache (*Rogers*); Panama, Volcan de Chiriqui (*Champion*), Colon (*Boucard, mus. D.*).—Venezuela [2]; Brazil [1].

This species seems to have a very extended range; it does not vary to any extent. Mr. Champion informs me that it is a very common insect in Central America.

2. **Macrocneme auripes.** (Tab. VI. fig. 15.)

Macrocneme auripes, Walk. Cat. i. p. 250 [1]; Butl. Ill. Lep. Het. i. p. 25, t. 8. f. 4.

Hab. Guatemala, Teleman and Panzos (*Champion*); Honduras [1] (*Dyson*) Panama, David (*Champion*), Colon (*Boucard, mus. D.*).

This species differs from all the other species of *Macrocneme* in having the tarsi bright orange-yellow. It appears to be a scarce insect in our country; I have only received three examples. The figure is from a Guatemala specimen.

3. **Macrocneme vittata.**

Euchromia (*Macrocneme*) *vittata*, Walk. Cat. i. p. 149[1].

Macrocneme vittata, Butl. Journ. Linn. Soc., Zool. xii. p. 372.

Hab. GUATEMALA, Panzos (*Champion*).—LOWER AMAZONS, Para[1] (*Bates*).

The Guatemala examples agree well with the type in the British Museum.

4. **Macrocneme iole**, sp. n. (Tab. VI. fig. 17.)

This species is allied to *M. leucostigma*, Perty, but it is a much larger and more beautifully coloured insect. The primaries are glossy black, crossed near the base by a wide bright golden-green band—in some specimens it almost extends to the base; secondaries black: head and thorax greenish black; antennæ black, tipped with white; abdomen golden green, with four small white spots at the base; legs greenish; the tibia and tarsus thickly clothed with long black scales; the tarsus is not tipped with white as it is in *M. leucostigma*. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo, Calderas (*Champion*); NICARAGUA, Chontales (*Belt*); PANAMA, Volcan de Chiriqui 2000 to 4000 feet, Bugaba (*Champion*).

The specimen from Chontales is very much faded and worn, but I believe it to belong to this species. The figure is taken from Chiriqui examples.

5. **Macrocneme adonis**, sp. n. (Tab. VI. fig. 16.)

Primaries dark violet-blue, shot with green in some lights, the outer margin and the apex blackish; secondaries black, shaded with dark blue at the apex: head and thorax black; abdomen greenish black, with two white dots at the base; antennæ and legs black. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Cordova (*Rümeli*); GUATEMALA, Chacoj (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This is the finest species of *Macrocneme* with which I am acquainted. In Guatemala it appears to be a rare insect as Mr. Champion only met with a single example; in Chiriqui it is much more abundant.

6. **Macrocneme evelina**, sp. n. (Tab. VIII. fig. 4.)

Primaries and secondaries uniform dull black, the apex of the primaries dusky white: head, thorax, abdomen, and legs black; antennæ black, tipped with white. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

I have only received a single example of this dull-coloured insect. I believe it is a female.

CALLICARUS.

Callicarus, Grote, Proc. Ent. Soc. Phil. vi. p. 182 (1866).

This genus contains only a few species, two of them being found in our country; it is very closely allied to the next genus (*Mastigocera*), the differences being well defined by Mr. Grote in his 'Notes on the Zygænidæ of Cuba.'

1. **Callicarus plumipes.**

Sphinx plumipes, Drury, Ill. Exot. Ins. ii. t. 27. f. 3.

Euchromia (*Horamia*) *plumipes*, Walk. Cat. i. p. 252.

Callicarus plumipes, Butl. Journ. Linn. Soc., Zool. xii. p. 372; Ill. Lep. Het. i. p. 25, t. 8. f. 2.

Hab. MEXICO, Valladolid in Yucatan (*Gaumer*); GUATEMALA, San Gerónimo (*Champion*); NICARAGUA, Chontales (*Belt*).

2. **Callicarus laconia,** sp. n. (Tab. VI. fig. 18.)

Primaries and secondaries uniform brownish black, much the same colour as *C. plumipes*, several very minute blue dots at the base of the primaries: head black, with the front blue; thorax black, with three bluish-white spots on each side; abdomen black, with two blue spots close to the base, and a row of bluish-white dots on either side; antennæ and palpi black, not tipped with white as they are in *C. plumipes*; legs all black, the hind legs thickly covered with long hairs. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Valladolid in Yucatan (*Gaumer*).

Of this pretty little species I have only received a single example in poor condition; it is easily distinguished from *C. plumipes* by its smaller size, black abdomen spotted with blue, shorter and black hind legs.

3. **Callicarus texanus.**

Callicarus texanus, Grote, Proc. Ent. Soc. Phil. vi. p. 184[1].

Hab. NORTH AMERICA, Texas[1].—MEXICO, Milpas (*Forrer*), Jalapa (*Höge*).

This species closely resembles *Mastigocera œdipus*. It is a smaller and much slighter-looking insect.

MASTIGOCERA.

Mastigocera, Boisduval, Lép. Guatemala, p. 81 (1870).

This genus is very closely allied to *Callicarus*, from which it differs as follows:—the antennæ are longer, the palpi more erect, and the second joint much longer than in *Callicarus*; the neuration is very much the same, but the tuft of hair on the hind legs is much larger, and more in the shape of a ball. Mr. Champion tells me that he always found these insects beneath the leaves of certain trees when in flower.

1. **Mastigocera calvipes.** (Tab. VI. fig. 20.)

Mastigocera calvipes, Boisd. Lép. Guat. p. 81[1]; Butl. Journ. Linn. Soc., Zool. xii. p. 373[2].

Hab. MEXICO[1]; COSTA RICA, Irazu (*Rogers*).—VENEZUELA[2].

I have examined the type of this species; the specimen before me agrees with it in all respects. The figure is taken from the Costa-Rican example.

2. **Mastigocera œdipus.** (Tab. VI. fig. 19.)

Mastigocera œdipus, Boisd. Lép. Guat. p. 81; Butl. Journ. Linn. Soc., Zool. xii. p. 373.

Hab. MEXICO, Valladolid in Yucatan (*Gaumer*); GUATEMALA, San Gerónimo (*Champion*).

This fine species is most nearly allied to *M. calvipes*, but it is a very much larger insect. In Guatemala it appears to be rare, where Mr. Champion only obtained two examples. The type of this insect was kindly sent to me by Mons. C. Oberthür for examination; it only consists of the wings and hind legs gummed on to a card, but still quite sufficient to identify the species with certainty.

ISANTHRENE.

Isanthrene, Hübn. Verz. bek. Schmett. p. 125; Walker, Cat. i. p. 154 (1854).

This genus has had about eleven species placed in it. All these insects are of a very hornet-like appearance. Five species are found in our country.

1. **Isanthrene pompiloides.**

Glaucopis (*Isanthrene*) *pompiloides*, Walk. Cat. i. p. 156[1].

Isanthrene pompiloides, Butl. Journ. Linn. Soc., Zool. xii. p. 374; Ill. Lep. Het. pt. i. p. 26, t. 12. f. 10.

Hab. MEXICO, Valladolid in Yucatan (*Gaumer*); GUATEMALA (*mus. Brit.*[1]).

This species seems to be a Mexican insect, the only authority for its occurrence in Guatemala being the specimen in the British Museum. Mr. Champion did not meet with it.

2. **Isanthrene echemon,** sp. n. (Tab. VI. fig. 22.)

Primaries yellowish hyaline, darker along the costal margin, the inner and outer margins narrowly banded with black, rather wider at the apex; secondaries yellowish hyaline, the inner and outer margins bordered with black: the palpi, head, thorax, and abdomen deep black; antennæ deep orange-yellow, almost scarlet at the base; the legs brownish black. Expanse 2 inches.

Hab. GUATEMALA, San Juan in Vera Paz (*Champion*).

Mr. Champion only obtained a single specimen of this fine species; it is quite unlike any other described *Isanthrene* with which I am acquainted, its nearest ally being the Mexican *I. pompiloides*, Walker, a species that is perhaps peculiar to that country.

3. **Isanthrene championi,** sp. n. (Tab. VIII. fig. 6.)

Primaries and secondaries reddish-brown hyaline, the outer and inner margins of both the primaries and secondaries narrowly bordered with black: the head, thorax, and abdomen black, with two minute yellow spots at the base; antennæ pale yellow at the tips, almost red at the base; legs black, the veins on the upperside are black, on the underside they are bright scarlet. Expanse 2½ inches.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

I have named this very fine insect after Mr. Champion, who obtained a single example of it in the neighbourhood of Bugaba. It is a very distinct species, its nearest ally being *I. echemon* from Guatemala.

4. **Isanthrene incendiaria.**

Glaucopis incendiaria, Hübn. Samml. exot. Schmett. t. 165.

Glaucopis (*Isanthrene*) *flavicornis*, Walk. Cat. i. p. 155 (nec Fabr.).
Isanthrene incendiaria, Butl. Journ. Linn. Soc., Zool. xii. p. 375.
Hab. MEXICO, Milpas (*Forrer*).—BRAZIL (*mus. D.*).

A single example of this species was sent; it agrees well with specimens in my own collection from South Brazil.

5. **Isanthrene crabroniformis.** (Tab. VI. fig. 23.)

Isanthrene crabroniformis, Staudinger, Verh. z.-b. Ges. Wien, xxv. p. 120 (1875)[1].
Hab. PANAMA, Volcan de Chiriqui and David (*Ribbe*[1], *Champion*), Colon (*Boucard, mus. D.*), Taboga Island (*Champion*).

A very common species in Chiriqui, most nearly allied to *I. flavicornis*, Fabr., from Colombia.

HOMŒOCERA.

Homœocera, Felder, Reise der Nov. Lep. t. 102. f. 26.

The type of this genus is *Homœocera crassa*, Felder. Mr. Butler in his paper on the Zygænidæ includes eight species in this genus, three of which occur in our country.

1. **Homœocera jansonis.**

Gymnelia jansonis, Butl. & Druce, Cist. Ent. i. p. 116.
Gymnelia jansonis, Butl. Lep. Exot. t. 61. f. 17[1].
Homœocera jansonis, Butl. Journ. Linn. Soc., Zool. xii. p. 375.
Hab. COSTA RICA, Cartago[1] (*Van Patten*), Irazu (*Rogers*); PANAMA, Bugaba (*Champion, Ribbe, mus. Staudinger*).

I have only seen three examples of this species; the type is now in the British Museum.

2. **Homœocera beatrix,** sp. n. (Tab. VI. fig. 25.)

Primaries and secondaries yellowish hyaline, the outer and inner margins bordered with black, the base of the primaries black, spotted with bright green scales: head and thorax black, banded and spotted with bright green; abdomen black, broadly banded with bright metallic green, each segment narrowly margined with pale yellow; anus bright orange; antennæ black, very slightly pectinated; legs brownish black. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe*), Bugaba and San Feliz (*Champion*).

This beautiful little species is allied to *H. jansonis*, from which it differs in having extremely narrow margins to the primaries, and being of a much more yellow colour.

3. **Homœocera scintillans.**

Læmocharis scintillans, Herr.-Schäff. Samml. aussereur. Schm. f. 244.
Glaucopis (*Pœcilosoma*) *flavitarsis*, Walk. Cat. i. p. 158[1].
Homœocera scintillans, Butl. Journ. Linn. Soc., Zool. xii. p. 376; Ill. Lep. Het. i. p. 26, t. 12. f. 4.
Hab. COSTA RICA (*Van Patten*).—VENEZUELA[1].

A single example in bad condition was received in Van Patten's last collection; it is

allied to *H. jansonis* and *H. beatrix*, but differs from both, the most marked difference being that the extremity of the abdomen is greenish black instead of red, as it is in the above-mentioned species.

4. Homœocera beata.

Homœocera beata, Butl. Journ. Linn. Soc., Zool. xii. p. 376[1].

Hab. PANAMA (*Ribbe, mus. Staudinger*).—COLOMBIA (*Bouchard*[1]); BRAZIL.

The example in Dr. Staudinger's collection agrees well in all respects with Mr. Butler's type.

5. Homœocera salvini.

Homœocera salvini, Butl. Journ. Linn. Soc., Zool. xii. p. 376; Ill. Lep. Het. pt. i. p. 27, t. 17. f. 4.

Hab. PANAMA, Obispo (*Salvin*).

The only example of this insect with which I am acquainted was taken by Mr. Salvin some years ago near Obispo, and presented by him to the British Museum; it is very distinct, and the largest species of this genus found in our country.

SAROSA.

Sarosa, Walker, Cat. i. p. 151 (1854).

Three species only are placed in this genus by Mr. Butler, one of them being found in our country. It is allied to *Erruca*, from which it chiefly differs by its longer and narrower primaries and more deeply pectinated antennæ.

1. Sarosa pompilina. (Tab. VI. fig. 24.)

Sarosa pompilina, Butl. Journ. Linn. Soc., Zool. xii. p. 377[1].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe*).—ECUADOR (*mus. D.*); BRAZIL, Espiritu Santo[1].

The specimen from Chiriqui agrees well with the type. I have only seen a single example from our country. Mr. Champion did not meet with this species.

ERRUCA.

Erruca, Walker, Cat. i. p. 165 (1854).

Walker founded this genus for the reception of a single insect. Mr. Butler, in his revision of the Zygænidæ in the British Museum, has placed about thirteen species in it, mostly from the Neotropical Region. I have lately described three others from Ecuador, making about sixteen known species, only one of them having been previously recorded from our country. I now add the description of another species.

1. Erruca varia.

Glaucopis (*Isanthrene*) *varia*, Walk. Cat. i. p. 157[1].

Erruca varia, Butler, Journ. Linn. Soc., Zool. xii. p. 378.

Hab. PANAMA, Bugaba (*Champion*).—AMAZONS, Para[1].

This species is very closely allied to *E. pertyi*, and I think it is more than likely it will prove to be the same; but at present I have not a sufficient number of specimens to determine this point with certainty. I have only received a single example from Panama.

2. **Erruca azia,** sp. n. (*Homœocera azia*, Tab. VI. fig. 21.)

Primaries and secondaries uniform yellowish hyaline, the outer margins of both narrowly bordered with black, the inner margin of primaries, from the base to near the anal angle, yellowish brown; a few metallic green scales at the base: head green; thorax black, with a large green spot close to the base; abdomen black, with two yellowish-white bands at the base and one spot of the same colour on each side, a double row of green spots on the abdomen near the middle; antennæ black, with brownish-yellow tips; legs black, with the tarsus yellow. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Teleman (*Champion*).

Of this very beautiful species I have only received a single example.

MYRMECOPSIS.

Myrmecopsis, Newman, Zool. viii. Append. cxxii. (1850).

The insects of this genus are nearly all like Ichneumonidæ. They are mostly very rare in collections, specimens only coming at long intervals. Three species are found in our country.

1. **Myrmecopsis semihyalina.**

Glaucopis (*Pseudosphex*) *semihyalina,* Walk. Cat. i. p. 197[1].

Pseudosphex vespiformis, Herr.-Schäff. Samml. aussereur. Schmett. f. 425.

Myrmecopsis semihyalina, Butl. Journ. Linn. Soc., Zool. xii. p. 380; Ill. Lep. Het. pt. i. p. 28, t. 13. f. 9.

Hab. GUATEMALA, Teleman (*Champion*).—BRAZIL [1].

The specimen I have received agrees well with the type in the British Museum, which I think more than likely came from one of the Central-American States, and not from Brazil, the locality "Brazil" being used very often for specimens from any part of South America.

2. **Myrmecopsis polistes.**

Pseudosphex polistes, Hübner, Zutr. exot. Schm. f. 39, 40.

Myrmecopsis polistes, Butl. Journ. Linn. Soc., Zool. xii. p. 380[1].

Glaucopis (*Pseudosphex*) *polistes,* Walk. Cat. i. p. 196[2].

Myrmecopsis eumenides, Newm. Zool. viii. Append. cxxii.

Hab. GUATEMALA, Teleman (*Champion*).—BRAZIL [1 2].

A single example of this insect was taken by Mr. Champion, who tells me that he only found the species of this and the following genus flying about flowers in the hottest sunshine at midday, usually in company with the Hymenopterous insects, which they so closely resemble.

3. **Myrmecopsis crabronis,** sp. n. (Tab. VIII. fig. 9.)

Primaries and secondaries brownish hyaline, darkest along the costal margin: head, thorax, abdomen, and legs greasy black; antennæ reddish brown. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA (*mus. Staudinger*); PANAMA, Volcan de Chiriqui (*Champion*).

This species is allied to *M. polistes*, Hübner, but differs from it by being considerably larger, and by having a black head, thorax, and abdomen, instead of yellowish brown, as in that species.

SPHECOSOMA.

Sphecosoma, Butler, Journ. Linn. Soc., Zool. xii. p. 381 (1876).

This genus has three species placed in it by Mr. Butler, two of which occur pretty commonly in our country.

1. **Sphecosoma fasciolatum.** (Tab. VI. fig. 26.)

Sphecosoma fasciolatum, Butl. Journ. Linn. Soc., Zool. xii. p. 381[1].

Hab. GUATEMALA, Panzos, Teleman; PANAMA, Bugaba (*Champion*).—COLOMBIA, Santa Marta[1]; BRAZIL.

This wasp-like insect was pretty common at Teleman, but I have only received a single example from Bugaba.

2. **Sphecosoma testaceum.** (Tab. VI. fig. 27.)

Glaucopis (*Pseudosphex*) *testacea,* Walk. Cat. i. p. 196[1].

Sphecosoma testaceum, Butl. Journ. Linn. Soc., Zool. xii. p. 381.

Hab. GUATEMALA, Panzos, Teleman (*Champion*).—BRAZIL[1].

This species closely resembles *Myrmecopsis polistes*, Hübn.

GYMNELIA.

Gymnelia, Walker, Cat. i. p. 152 (1854).

The genus *Gymnelia*, as now restricted, forms a very natural little group of species, in form resembling *Homœocera*, two species as yet only occurring in our country.

1. **Gymnelia gigantea,** sp. n. (Tab. VIII. fig. 5.)

Primaries hyaline, the base, costal, outer and inner margins, and a band at the end of the cell black; secondaries, the base and inner margin broadly black, the outer slightly bordered with black: the head, thorax, and abdomen black; the collar dark blue and the abdomen banded with the same colour; antennæ black; legs bright scarlet. Expanse $2\frac{1}{4}$ inches.

Hab. COSTA RICA (*Van Patten*).

This very fine species is closely allied to *G. torquata*, from which it differs in having the abdomen all black banded with blue, instead of half red, as in that species, also in the legs being scarlet instead of black. It is the largest species known to me.

2. **Gymnelia xenodorus,** sp. n. (Tab. VII. fig. 1.)

Primaries and secondaries yellowish hyaline, the outer and inner margins broadly banded with black, a black band at the end of the cell: head and collar blue; antennæ black, tipped with white; thorax black; abdomen black, shot with blue on the sides, the first segment dirty white, the fifth, sixth, and seventh orange-red on the upperside; legs black. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Panzos (*Champion*).

This species is allied to *G. whitelyi*, from Eastern Peru; but it is at once distinguished from that insect by its bright-red extremity of the abdomen.

LÆMOCHARIS.

Læmocharis, Herrich-Schäffer (part), Samml. aussereur. Schmett. 258.

This genus, as restricted by Mr. Butler, now has about eight species placed in it, all of them being small. Herrich-Schäffer included a large number of species in his genus, many of them belonging to quite different genera. Three species occur in our country, two of them being new.

1. **Læmocharis trigutta.**

Glaucopis (*Pseudomya*) *trigutta,* Walk. Cat. i. p. 145 [1].

Læmocharis trigutta, Butl. Journ. Linn. Soc., Zool. xii. p. 383; Ill. Lep. Het. i. p. 29, t. 7. f. 10.

Hab. GUATEMALA, Panzos (*Champion*).—COLOMBIA [1]; AMAZONS, Tabatinga (*M. Stuart, mus. D.*).

This species is found over a very extended range of country. The example from Guatemala is darker in colour than those from South America, but in other respects it does not differ.

2. **Læmocharis stryma,** sp. n. (Tab. VII. fig. 5.)

Primaries and secondaries hyaline, with the veins and outer margins black: head and antennæ black; thorax black, with a small spot on each side and one at the base bright carmine; abdomen black; legs black, the tarsus of the hind legs white. Expanse $\frac{3}{4}$ inch.

Hab. NICARAGUA, Chontales (*Belt*).

3. **Læmocharis hercyna,** sp. n. (Tab. VII. fig. 6.)

Primaries hyaline, the base, inner and outer margins narrowly bordered with black, the apex broadly black; secondaries hyaline, with the outer margin black: head, thorax, and antennæ black; abdomen pale chrome-yellow; legs black. Expanse 1 inch.

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, Bugaba (*Champion*).

A pretty little species, resembling *Ilipa stilbosticta*, Butler, from Colombia.

GYMNOPODA.

Gymnopoda, Felder, Reise d. Nov. Lep. t. 102. f. 22; Index, p. 5.

Dr. Felder states that this genus is allied to *Horama*. The primaries are long and narrow, as in that genus, the palpi are rather long, and the antennæ slightly pectinated.

1. **Gymnopoda subflamma,** sp. n. (Tab. VIII. fig. 10.)

Primaries semitransparent black, except from the base to the end of the cell, which is quite hyaline, almost the same as *Gymnopoda ochracea*, Felder; secondaries hyaline, the outer margin and apex dusky black: the head and antennæ black, collar with a few whitish scales; thorax and legs black; abdomen reddish yellow, with a central band of black spots; the anus black. Expanse 1 inch.

Hab. PANAMA, Chiriqui (*Champion*).

Of this insect I have only received a single example. It is closely allied to Dr. Felder's species, from which it chiefly differs by having a white collar and a row of black spots down the centre of the abdomen.

THRINACIA.

Thrinacia, Butler, Journ. Linn. Soc., Zool. xii. p. 384 (1876).

Two species are placed in this genus by Mr. Butler, one of which occurs in our country, also two new species now described.

1. **Thrinacia afflicta.**

Glaucopis (*Pseudomya*) *afflicta,* Walk. Cat. i. p. 144[1].

Thrinacia afflicta, Butl. Journ. Linn. Soc., Zool. xii. p. 384; Ill. Lep. Het. i. p. 29, t. 7. f. 12.

Hab. PANAMA, Chiriqui (*Champion*).—BRAZIL [1].

2. **Thrinacia sanguinea,** sp. n. (Tab. VII. fig. 9.)

Primaries black, hyaline in the centre of the wing; secondaries black: head, antennæ, and abdomen black; thorax and the base of the primaries bright red; legs black. Expanse 1 inch.

Hab. GUATEMALA, Teleman (*Champion*).

This species differs from *T. afflicta*, Walk., in having the primaries more hyaline and the base of the wings all red.

3. **Thrinacia intermedia,** sp. n.

Closely allied to the preceding species, the chief difference being its more sooty colour, red instead of black head, slightly more pectinated antennæ, longer and narrower primaries, the abdomen and legs black. Expanse 1 inch.

Hab. PANAMA, Bugaba 8000 feet (*Champion*).

A very distinct species, of which a single example was sent.

PSEUDOCHARIS, gen. nov.

General appearance of *Læmocharis*; neuration of the primaries as in *Dycladia*; secondaries very small and narrow at the apex. Head small; palpi minute, first joint oval, second elongated, thickly clothed with scales. Antennæ very slightly pectinated, with thirty-nine joints. Thorax and abdomen short and thick, the same as in *Dycladia*. Fore leg long and slender, the coxa very flat; femur long and slight; tibia rather short, with a short spur rather beyond the middle; tarsus five-jointed, hind leg very long, tibia with four spurs, the first two about the middle, the second pair at the end close to the tarsus, which

is very long; both tibia and tarsus clothed with long hairy scales closely resembling the hind legs of *Macrocneme adonis*, only being very much smaller.—Type *P. nœnia*.

1. **Pseudocharis nœnia,** sp. n. (Tab. VII. fig. 12.)

Primaries brownish black; secondaries black hyaline from the middle to the inner margin: head, antennæ, thorax, and abdomen black; a minute red spot on each side of the head; legs black. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

2. **Pseudocharis sithon,** sp. n. (Tab. VII. fig. 7.)

Primaries and secondaries hyaline, with the costal, outer, and inner margins broadly bordered with brownish black: head and antennæ black; thorax black, with a red spot on each side in the front; abdomen black, with the side broadly banded with scarlet; legs black. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

Two specimens of this species from the same locality differ from the type in having the red markings pale yellow; in all other respects they are the same.

PSEUDOMYA.

Pseudomya, Hübner, Verz. bek. Schmett. p. 124.

Three species are now placed in this genus by Mr. Butler, one of them being very common in our country.

1. **Pseudomya tipulina.**

Glaucopis unicolor tipulina, Hübn. Samml. exot. Schmett. i. t. 164.

Pseudomya tipulina, Hübn. Verz. bek. Schmett. p. 124; Butl. Ill. Lep. Het. i. p. 29, t. 7. f. 7.

Glaucopis (*Pseudomya*) *bibia,* Walk. Cat. i. p. 143.

Hab. GUATEMALA, Senahu, Panima (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe, Champion*).—S. E. BRAZIL (*mus. D.*).

This species closely resembles a fly about the same size; in fact it is difficult to distinguish between the two insects. Mr. Champion informs me that they both fly together.

PHEIA.

Pheia, Walker, Cat. i. p. 146 (1854).

This genus has about four species placed in it by various authors, only one of which, so far as I at present know, occurs in our country. The genus is nearly allied to *Gymnelia*.

1. **Pheia intensa.** (Tab. VII. fig. 16.)

Glaucopis (*Pœcilosoma*) *intensa,* Walk. Cat. i. p. 159[1].

Pheia intensa, Butl. Journ. Linn. Soc., Zool. xii. p. 386; Ill. Lep. Het. i. p. 30, t. 12. fig. 11.

Hab. HONDURAS (*Dyson*)[1]; PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).

MOCHLOPTERA.

Mochloptera, Butler, Journ. Linn. Soc., Zool. xii. p. 386 (1876).

This genus was founded by Mr. Butler for the reception of two insects, the one described by Perty, the other by Walker, who had both placed them in different genera from which they are clearly distinct.

1. **Mochloptera xanthocera.**

Gymnelia xanthocera, Walk. Cat. vii. p. 1603.
Mochloptera xanthocera, Butl. Journ. Linn. Soc., Zool. xii. p. 386.

Hab. GUATEMALA, San Gerónimo, Panzos, Senahu (*Champion*); PANAMA, Volcan de Chiriqui (*Trötsch*).

This species is very close to *M. acroxantha*, Perty, the only difference being, so far as I can see, in the colour of the antennæ; in *M. xanthocera* they are pale citron-yellow, while those of Perty's species are black, excepting the tips, which are pale yellow; in other respects they do not differ in the slightest degree. The type of Walker's species, with which I have compared the specimens before me, is now in the Oxford Museum without any locality attached to it, though Walker gives Brazil as his locality in the description of this species in his Catalogue.

So far as I at present know, the range of the northern form is from Guatemala to Panama, and of the southern one from Ecuador to North Brazil.

COSMOSOMA.

Cosmosoma, Hübner, Samml. exot. Schmett. ii. t. 155.

This genus has between twenty and thirty species placed in it, most of them from South America, though it is well represented in our country by about ten species, some of which are the same as the southern ones.

1. **Cosmosoma metallescens.**

Læmocharis metallescens, Ménétriés, Enn. Corp. An. Mus. Petr. ii. t. 14. f. 1[1].
Cosmosoma chalcosticta, Butl. Journ. Linn. Soc., Zool. xii. p. 387.

Hab. GUATEMALA, Las Mercedes (*Champion*); PANAMA, Chiriqui (*Ribbe*), Bugaba (*Champion*).—BRAZIL [1].

Mr. Butler doubtfully places this species as a synonym of *C. pheres* of Cramer. I cannot agree with him. *C. pheres* of Cramer is a very different-looking insect; the primaries are much wider and the body larger, in fact it is much more robust. Cramer's species came from Surinam, and appears to me very different. I have a large series of specimens before me, and some of them have the spots bright brassy green, instead of blue-green as mentioned by Mr. Butler in his description of *C. chalcosticta*; this is more frequent in the females than in the males. Mr. Champion took the sexes of this species *in copulâ*; the female differs from the male by having the extremity of the abdomen

bright orange-yellow and the antennæ simple. This species, I am informed by Mr. Champion, is common near the Volcano of Chiriqui; but he only met with two examples of it in Guatemala.

2. **Cosmosoma confine.**

Læmocharis confinis, Herrich-Schäffer, Samml. aussereur. Schmett. f. 255.
Glaucopis remota, Walk. Cat. i. p. 170[1].
Cosmosoma confine, Butl. Journ. Linn. Soc., Zool. xii. p. 387[2].

Hab. GUATEMALA (*Boucard, mus. D.*).—COLOMBIA; ECUADOR; VENEZUELA[1 2].

A single example of this insect was brought from Guatemala by Mons. Boucard, agreeing in all respects with those in my collection from South America.

3. **Cosmosoma elegans,** sp. n. (Tab. VII. fig. 13.)

Primaries and secondaries hyaline; the costal margin, the base, and part of the inner margin of primaries yellow, the apex and outer margin black, the outer and inner margins of the secondaries narrowly bordered with black: the head, antennæ, and palpi black; thorax and abdomen yellow, striped and banded with black and blue spots; legs yellow and black. Expanse 1 inch.

Hab. GUATEMALA, Panima, Cubilguitz (*Champion*); PANAMA, Bugaba (*Champion*).

This very pretty little species is unlike any other with which I am acquainted.

4. **Cosmosoma saron,** sp. n. (Tab. VII. fig. 14.)

Primaries yellowish hyaline, the costal margin yellow, the apex, outer and inner margin brownish black, the veins black; secondaries hyaline, the outer margin narrowly banded with black: the front of head dirty white; palpi and antennæ black; the back of head and the thorax black, with metallic bluish-green spots; abdomen black, shot with green; legs black. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe*).

Of this very distinct species I have only received a single example, the abdomen of which is very flattened, making it impossible to tell with certainty as to its markings.

5. **Cosmosoma advena,** sp. n. (Tab. VII. fig. 15.)

Primaries and secondaries hyaline, the apex and outer margins broadly banded with black; the front of head, palpi, and antennæ black; the back of head, thorax, and sides of the abdomen nearly to the anus bright orange-red, the anus and a central band black; legs brownish black. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, San Gerónimo, Senahu (*Champion*).

The example from San Gerónimo is larger than that from Senahu, and not quite so bright in colour; it is most nearly allied to *C. auge*, Linn.

6. **Cosmosoma myrrha,** sp. n. (Tab. VII. fig. 10.)

Primaries and secondaries hyaline from the base to just beyond the cell, the apex, outer and inner margins broadly black; the thorax and base of the primaries bright orange-yellow: the head, antennæ, and palpi black; abdomen black, the anus bright blue; legs wanting. Expanse 1 inch.

Hab. GUATEMALA, San Juan in Vera Paz (*Champion*).

Of this beautiful little insect, I have only received a single example. At first sight it reminds one of *Thrinacia sanguinea*; but it is clearly a *Cosmosoma*.

7. **Cosmosoma hector.** (Tab. VII. fig. 17.)

Glaucopis (*Cosmosoma*) *hector*, Staudinger, Verh. z.-b. Ges. Wien, xxv. p. 120 [1].

Hab. Panama, Volcan de Chiriqui (*Ribbe* [1], *mus. D.*).

This very beautiful species is easily distinguished from all others of this genus by its bright scarlet abdomen. Dr. Staudinger has received a considerable number of specimens; but Mr. Champion did not meet with a single example.

8. **Cosmosoma auge.**

Sphinx auge, Linn. Syst. Nat. ii. p. 807.

Cosmosoma auge, Butl. Journ. Linn. Soc., Zool. xii. p. 388 [1].

Cosmosoma omphale, Hübn. Samml. exot. Schmett. ii. f. 1, 4; Stretch, Ill. Zygænidæ and Bombycidæ of North America, p. 153, t. 7. f. 5 [2]; Grote, Proc. Ent. Soc. Phil. vi. p. 189 [3].

Hab. North America, Florida [1 2].—Mexico (*Boucard*, *mus. D.*), Jalapa (*Dr. Clemens* [3]); Guatemala, San Gerónimo, Cahabon, Cerro Zunil, Zapote (*Champion*); Costa Rica, Irazu (*Rogers*); Panama, Volcan de Chiriqui (*Champion*).—Cuba and Jamaica (*mus. D.*).

This is the only species of this genus known to me that has red legs. The examples from Guatemala have the black patch at apex of the primaries wider than in those from the other localities; but I do not consider the character sufficiently marked to admit of another species being described.

9. **Cosmosoma teuthras.**

Glaucopis (*Cosmosoma*) *teuthras*, Walk. Cat. i. p. 168 [1].

Cosmosoma teuthras, Butl. Journ. Linn. Soc., Zool. xii. p. 389 [2]; Ill. Lep. Het. i. p. 31, t. 13. f. 5.

Hab. Mexico (*Boucard*, *mus. D.*); Panama, Bugaba (*Champion*).—Venezuela [1]; Brazil [2].

10. **Cosmosoma cingulatum.**

Cosmosoma cingulatum, Butl. Journ. Linn. Soc., Zool. xii. p. 389 [1].

Hab. Mexico, Ventanas (*Forrer*), Valladolid in Yucatan (*Gaumer*); Guatemala, Zapote, San Gerónimo (*Champion*); Panama, Veraguas (*Arcé* [1]).

This species seems to be very common in Guatemala, judging from the large number of specimens sent by Mr. Champion; it is a well-marked race of *C. teuthras*.

11. **Cosmosoma impar.** (Tab. VII. fig. 20.)

Glaucopis (*Cosmosoma*) *impar*, Walk. Cat. i. p. 169 [1].

Hab. Mexico [1] (*Argent*); Panama, Volcan de Chiriqui (*Champion*).

This very distinct species is most nearly allied to *C. auge*.

ILIPA.

Ilipa, Walker, Cat. i. p. 166 (1854).

This genus has seven species placed in it by Mr. Butler, only one of them being as yet found in our country. They are closely allied to *Dycladia*.

1. **Ilipa stilbosticta.**

Ilipa stilbosticta, Butl. Journ. Linn. Soc., Zool. xii. p. 391[1].

Hab. PANAMA, Bugaba (*Champion*), Veraguas.—COLOMBIA[1]; ECUADOR (*Buckley, mus. D.*).

In the examples from Bugaba the black margins of the wings are considerably narrower than in those I have from Ecuador; but an example before me from Colombia seems intermediate between the two forms. I have therefore preferred considering them the same as Mr. Butler's species, with which my examples from Ecuador agree well.

DYCLADIA.

Dycladia, Felder, Reise d. Nov. Lep. t. 102. f. 20; Index, p. 4.

This genus now has about thirty species placed in it. They are generally of small size, with short thick abdomens, and are commonly found all over Tropical South America.

1. **Dycladia mexicana.** (Tab. VII. fig. 2.)

Gymnelia mexicana, Walk. Cat. Suppl. i. p. 84[1].

Dycladia mexicana, Butl. Journ. Linn. Soc., Zool. xii. p. 392.

Hab. MEXICO, Jalapa (*Höge*).

A single example, in poor condition, was found dead on the ground; it agrees in all respects with Walker's type.

2. **Dycladia vittata.** (Tab. VII. fig. 21.)

Pheia vittata, Walk. Cat. Suppl. i. p. 83[1].

Dycladia vittata, Butl. Journ. Linn. Soc., Zool. xii. p. 392.

Hab. MEXICO, Vera Cruz (*Sallé*[1]); GUATEMALA, Panzos, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Two specimens only of this species were sent. The figure is taken from the Atitlan example, which agrees well with Walker's type in the British Museum.

3. **Dycladia correbioides.**

Dycladia correbioides, Felder, Reise d. Nov. Lep. iv. t. 102. f. 20[1]; Butl. Journ. Linn. Soc., Zool. xii. p. 394[2].

Hab. GUATEMALA, Las Mercedes, San Gerónimo, Panima, Tamahu, Zapote (*Champion*);

Costa Rica, Cache, Irazu 6000 to 7000 feet (*Rogers*); Panama, David, Volcan de Chiriqui (*Champion*).—Colombia [1 2].

This species appears to be a common insect in Central America. The specimens before me agree well with Dr. Felder's figure, also with those in the British Museum from Colombia.

4. **Dycladia imitata,** sp. n. (Tab. VII. fig. 23.)

Primaries and secondaries whitish hyaline, with the costal, outer, and inner margins bordered with black, the apex broadly black: head and palpi black; antennæ black, tipped with white; thorax and abdomen orange-yellow, with a narrow central black line from the back of the head to the anus, which is black; legs brownish black. Expanse 1 inch.

Hab. Guatemala, Panzos (*Champion*).

This pretty species is allied to *D. bura*, from which it is easily distinguished by its yellow abdomen and white-tipped antennæ.

5. **Dycladia pyrgion,** sp. n. (Tab. VII. fig. 22.)

Primaries hyaline, the apex and outer margin black, the base orange-yellow; secondaries hyaline, the apex black: the head, palpi, and legs black; antennæ black, tipped with white; thorax and sides of abdomen orange-yellow; a narrow central band from the base of the abdomen to near the anus and the three last segments black; the underside of the abdomen silky white. Expanse 1 inch.

Hab. Panama, Volcan de Chiriqui (*Ribbe*), Bugaba (*Champion*).

The figure is taken from the Bugaba example.

6. **Dycladia flaviventris,** sp. n. (Tab. VIII. fig. 12.)

Primaries and secondaries hyaline, the veins and all the margins black, widest at the apex of the primaries: head black, whitish in front; palpi black; antennæ black, tipped with white; thorax black, with a small yellow spot on each side; abdomen black from the base to about the middle, the anal half pale yellow; a small white spot on either side close to the base; legs black. Expanse 1 inch.

Hab. Panama, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

Of this species I have only seen a single example, sent me by Dr. Staudinger, who received it from his collector in Panama.

7. **Dycladia augusta,** sp. n. (Tab. VII. fig. 19.)

Primaries hyaline, the base black, the costal and inner margin pale yellow to near the middle, the apex, outer margin, and anal angle narrowly bordered with black; secondaries hyaline, with the costal and inner margin pale yellow, the apex black: the head and antennæ black; palpi yellow, tipped with black; the front and centre of thorax metallic bluish black, the sides yellow; the underside of the thorax and legs yellow; abdomen wanting. Expanse 1 inch.

Hab. Guatemala, Teleman (*Champion*).

I have only received a single example of this beautiful little species. It is quite unlike any other known to me.

8. **Dycladia semifulva,** sp. n. (Tab. VIII. fig. 11.)

Primaries and secondaries yellowish hyaline; the base of the primaries, a spot at the end of the cell, the apex,

outer margin, and anal angle black; the apex and inner margin of the secondaries narrowly bordered with black: the head, palpi, and antennæ black, the front of the head white; thorax black, banded with yellow; abdomen pale yellow, excepting at the anus, where it is bluish black; legs yellow, with the tarsi black. Expanse 1 inch.

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

A beautiful little species, allied to *D. augusta*.

9. **Dycladia felderi.** (Tab. VII. fig. 18.)

Dycladia felderi, Druce, P. Z. S. 1883, p. 377, t. 39. f. 9[1].

Hab. GUATEMALA, Panzos, Teleman (*Champion*).—ECUADOR (*Buckley*[1]).

The specimens from Guatemala agree in all respects with those from Ecuador. This species is allied to *D. batesii*.

HYELA.

Hyela, Walker, Cat. i. p. 172 (1854).

Walker founded this genus for the reception of a single insect. Mr. Butler places four species in this genus, only one of which is found in our country.

1. **Hyela sanguinea.**

Glaucopis (*Hyela*) *sanguinea,* Walker, Cat. i. p. 172.
Hyela sanguinea, Butl. Journ. Linn. Soc., Zool. xii. p. 398; Ill. Lep. Het. i. p. 37, t. 11. f. 13.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe*).

Mr. Champion did not meet with this species. Walker's type is without any locality.

Subfamily *EUNOMIINÆ.*

DINIA.

Dinia, Walker, Cat. i. p. 189 (1854).

1. **Dinia eagrus.**

Sphinx eagrus, Cr. Pap. Ex. iii. t. 198. f. C.
Dinia eagrus, Butl. Journ. Linn. Soc., Zool. xii. p. 402.
Eunomia mena, Hübn. Samml. exot. Schmett. ii. t. 154.
Glaucopis auge, var. *β*, Walk. Cat. i. p. 190.
Glaucopis (*Dinia*) *saucia,* Walk. Cat. i. p. 190.

Hab. MEXICO, Cordova (*Rümeli*), Jalapa (*Höge*); GUATEMALA, Panima, Cubilguitz, Panzos, Teleman, San Gerónimo, Tamahu (*Champion*); COSTA RICA (*Van Patten, mus. D.*), Irazu (*Rogers*); NICARAGUA, Chontales (*Belt*); PANAMA, Caldera, Volcan de Chiriqui (*Champion*), Veraguas (*Arcé, mus. Brit.*).—COLOMBIA to SOUTH BRAZIL.

This species is a very common insect, and it is found over a very extended range of country. I cannot separate the three forms from each other. *D. saucia*, Walker, and

D. mena, Hübner, appear to me to be nothing but slight varieties of *D. eagrus*, Cram. I now have a very large series of specimens before me, and find that the so-called species are found in exactly the same locality, flying together. Mr. Butler keeps them distinct in his Monograph, but states that they may be only varieties of one species. I feel certain that such is the case, and have therefore placed them all under Cramer's name. A figure showing the curious way this insect passes its pupa state will be found in the 'Proceedings of the Entomological Society' for 1883, p. 24.

ÆTHRIA.

Æthria, Hübner, Verz. bek. Schmett. p. 120; Walker, Cat. i. p. 188.

This genus was adopted by Walker for the reception of a species described by Stoll. It is most nearly allied to the genus *Dinia*; but it can readily be separated from it by its different neuration and much more robust appearance.

1. Æthria hæmorrhoidalis.

Sphinx hæmorrhoidalis, Stoll, Pap. Ex. t. 12. f. 1.
Glaucopis hæmorrhoidalis, Walk. Cat. i. p. 189.
Æthria hæmorrhoidalis, Butl. Journ. Linn. Soc., Zool. xii. p. 402.

Hab. BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*).—ECUADOR (*mus. D.*); BRAZIL.

A single example, in poor condition, agreeing in all respects with those from Ecuador.

ARGYROEIDES.

Argyroeides, Butler, Journ. Linn. Soc., Zool. xii. p. 403.

This genus was founded by Mr. Butler for the reception of a single species described by Walker. It now contains about six species, all from Tropical South America.

1. Argyroeides eurypon, sp. n. (Tab. VII. fig. 3.)

Primaries and secondaries glossy hyaline, with all the nerves black; a very faint black margin at the apex of the secondaries, a small spot on each side of the head, one at the base of the primaries, and the anus pale yellow: head, palpi, and antennæ black; thorax and abdomen black, with dirty white bands on each side; legs black. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Panajachel 5000 feet (*Champion*).

Only a single example of this species was obtained.

2. Argyroeides laurion, sp. n. (Tab. VIII. fig. 13.)

Primaries and secondaries hyaline, with the nerves all black, the costal and outer margin narrowly bordered black: head, antennæ, thorax, and abdomen black, the underside of the thorax and abdomen dirty white; the legs black, tarsi whitish. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

This insect is allied to the preceding species, but is very distinct from it.

3. **Argyroeides menephron,** sp. n. (Tab. VIII. fig. 14.)

Primaries and secondaries hyaline, the nerves and outer margins brownish black: head black, palpi pale yellow; antennæ brownish black at the base and tips, yellow in the middle; thorax and abdomen black, striped and banded with pale yellow; legs black on the upperside, yellow on the underside. Expanse 1 inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

This species so closely resembles *Sphecosoma fasciolata*, excepting in the very different neuration, that it might easily be mistaken for that insect.

TRICHURA.

Trichura, Hübner, Verz. bek. Schmett. p. 126; Walker, Cat. i. p. 192.

This genus now contains about seven or eight species, three of which occur in our country. These insects closely resemble Ichneumons; they are mostly very scarce in collections.

1. **Trichura druryi.**

Trichura druryi, Hübner, Verz. bek. Schmett. p. 126; Butler, Journ. Linn. Soc., Zool. xii. p. 405[1].

Sphinx coarctata, Drury, Ill. ii. t. xxvii. f. 2[2].

Hab. GUATEMALA, Teleman (*Champion*); HONDURAS[1 2]; PANAMA, Volcan de Chiriqui (*mus. Staudinger*).

A single example of this insect was sent by Mr. Champion.

2. **Trichura esmeralda.** (Tab. VII. fig. 4.)

Glaucopis esmeralda, Walker, Cat. i. p. 194[1].

Trichura esmeralda, Butler, Journ. Linn. Soc., Zool. xii. p. 405; Lep. Het. p. 39, t. 13. f. 11.

Hab. BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*); HONDURAS (*Dyson*); GUATEMALA, Tamahu (*Champion*).

3. **Trichura ribbei,** sp. n. (Tab. VIII. fig. 15.)

Primaries and secondaries hyaline, the costal, outer, and inner margins of the primaries narrowly bordered with black; the apices of the secondaries broadly black: head, antennæ, and palpi black, front of palpi white; the back of the head, front and sides of the thorax bluish green, the base of the thorax black; the abdomen dark bluish black, contracted part white at the sides and beneath; caudal appendage black, and longer than the abdomen; legs bluish black. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA (*Ribbe, mus. Staudinger*).

A specimen of this species is in the British Museum from Bogota. It is allied to *T. latifascia.*

SYNTRICHURA.

Syntrichura, Butler, Journ. Linn. Soc., Zool. xii. p. 405.

This genus was founded by Mr. Butler for the reception of a small insect sent home

by Mr. Bates from San Paulo. It is allied to *Trichura*, from which it principally differs in the neuration of the primaries.

1. **Syntrichura placida**, sp. n. (Tab. VII. fig. 8.)

Primaries and secondaries yellowish hyaline, with the veins black; margins very narrow black: head, thorax, and abdomen black, not glossy as in *S. virens*; collar red; antennæ black, the tips pale yellow; the base of the abdomen yellow. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, Tamahu (*Champion*).

Only a single example of this species was obtained by Mr. Champion. It is close to *S. virens*, Butler; but it differs in several well-marked characters.

Subfam. *ANTICHLORINÆ*.

Antichlorinæ, Butler, Journ. Linn. Soc., Zool. xii. p. 408.

NAPATA.

Napata, Walker, Cat. i. p. 231.

1. **Napata leucotelus.** (Tab. VII. fig. 24.)

Napata leucotelus, Butler, Journ. Linn. Soc., Zool. xii. p. 409[1].

Euchromia (*Napata*) *terminalis*, var., Walker, Cat. i. p. 231[2].

Hab. MEXICO, Presidio (*Forrer*), Jalapa (*Höge*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, San Gerónimo, Panzos, Panima, Teleman (*Champion*); HONDURAS[1,2].—COSTA RICA, Irazu (*Rogers*).—VENEZUELA[1,2]; BRAZIL[2].

This species is very distinct from *N. terminalis*, Walker.

2. **Napata guatemalena**, sp. n.

Primaries and secondaries uniform brownish black, the fringe white at the apex and anal angle of the primaries, also on the outer margin of secondaries: the front of head, thorax, and the base of the primaries bright metallic green; the head bright red; palpi red, with black tips; antennæ black, slightly pectinated; abdomen black, with several indistinct green lines; legs black. Expanse 1 inch.

Hab. GUATEMALA, Tamahu, San Gerónimo (*Champion*).

This species is easily distinguished from the two others described by the bright red head and dark brownish-black wings.

PROCALYPTA.

Procalypta, Butler, Journ. Linn. Soc., Zool. xii. p. 411.

This genus was founded by Mr. Butler for the reception of a species that Walker had placed in the genus *Euchromia*: it is a very distinct-looking insect. The type in the British Museum is without any abdomen. I am inclined to think *Procalypta* should be placed near the genus *Charidea*; but not possessing any specimens of Walker's species, and only three of the one now described, I am rather uncertain upon this point, not being able to dissect the specimens.

1. **Procalypta subcyanea.**

Euchromia (*Endera*) *subcyanea*, Walker, Cat. i. p. 230[1].

Procalypta subcyanea, Butler, Journ. Linn. Soc., Zool. xii. p. 411; Lep. Het. p. 40, t. 8. f. 11.

Hab. Mexico (*Hartwig, Mus. Brit.*)[1].

The only specimen of this species known to me is the type.

2. **Procalypta victorina,** sp. n. (Tab. VIII. fig. 16.)

Primaries glossy black, with three large yellowish hyaline spots forming a slightly curved band from near the base to the costal margin close to the apex; secondaries glossy black, shot with bright blue, a very minute hyaline spot on the costal margin close to the base, underside bright morpho-blue: head, thorax, and basal half of the abdomen deep black; the thorax with six white spots on the front; antennæ black; the lower half of the abdomen bright bluish black; the anus dark carmine; legs black. Expanse 2 inches.

Hab. Costa Rica (*Van Patten*); Panama, Volcan de Chiriqui 4000 to 8000 feet (*Champion*).

This very fine species is easily distinguished from *P. subcyanea* by the absence of the spots on the secondaries.

DIPTEROMORPHA.

Dipteromorpha, Felder, Reise Nov. Lep. t. 102. f. 28.

This genus is very close to *Antichloris*, Hübner; the primaries are, however, rather longer and more pointed.

1. **Dipteromorpha adusta.**

Dipteromorpha adusta, Feld. Reise Nov. Lep. t. 102. f. 28.

Hab. Mexico, Jalapa (*Höge*), Cordova (*Rümeli*); Guatemala, Senahu, Tamahu, Teleman, San Gerónimo, Cerro Zunil (*Champion*).

This species is a very common one in Guatemala. Mr. Champion tells me that he found it flying about flowers in the hottest sunshine, generally with a hymenopterous insect, which it so closely resembles.

PTERYGOPTERUS.

Pterygopterus, Butler, Journ. Linn. Soc., Zool. xii. p. 411, t. 29. f. 10.

Mr. Butler founded this genus for the reception of a Brazilian insect. It is allied to *Antichloris*.

1. **Pterygopterus superbus,** sp. n. (Tab. VIII. fig. 7.)

Primaries blackish brown, excepting at the apex, which is broadly banded with pure white, narrowly edged with black on the outer margin, the costal margin and veins shot with blue; secondaries glossy bluish black on the underside, the veins are all glossy blue: head, thorax, and abdomen bluish black, a light-blue band on each side of the abdomen; palpi bluish; antennæ black, with the tips yellowish brown; legs bluish black. Expanse 2 inches.

Hab. Panama, Rio Gatun (*Ribbe, mus. Staudinger*).

Of this very beautiful species I have only seen a single example. It is quite unlike any other with which I am acquainted.

ANTICHLORIS.

Antichloris, Hübner, Verz. bek. Schmett. p. 124; Walk. Cat. i. p. 247, t. 29. f. 5; Butler, Journ. Linn. Soc., Zool. xii. p. 413.

This genus now contains about seven species, some of them being of great interest by so closely resembling other insects that at times it is almost impossible to detect them at first sight.

1. **Antichloris eriphia.**

Zygæna eriphia, Fabricius, Sp. Ins. ii. p. 163; Mant. Ins. ii. p. 105. 37.
Euchromia (*Antichloris*) *eriphia*, Walk. Cat. i. p. 247; vii. p. 1631[1].
Antichloris eriphia, Butl. loc. cit. p. 413[2].
Antichloris phemonoë, Hübn. Zutr. Samml. exot. Schmett. figs. 15, 16.

Hab. Mexico[1]; Guatemala, San Juan, Panzos (*Champion*).—West Indies; Amazons, Para[2].

The examples from Guatemala agree well with Hübner's figure.

2. **Antichloris viridis**, sp. n. (Tab. VII. fig. 25.)

Primaries greenish black, with the basal half bright metallic green; secondaries black, with the costal margin silky greyish brown: head, palpi, and antennæ greenish black; collar bright carmine; thorax black, the front bright metallic blue-green; abdomen bronzy green; legs black. Expanse $1\frac{1}{2}$ inch.

Hab. Panama, Volcan de Chiriqui (*Champion*).

This species is allied to *A. caca*, Hübn., but is much more brilliantly coloured, resembling *Macrocneme iole*.

3. **Antichloris panacea**, sp. n. (Tab. VIII. fig. 17, ♂.)

Male. Primaries uniform pale brown; the secondaries semitransparent white, with the outer and inner margin narrowly edged with brown: head, antennæ, and palpi black; thorax brown, with a bright-red spot on each side in the front; abdomen brown, shot with purple. Female differs from the male in having the secondaries dark brown, and simple antennæ. Expanse $1\frac{3}{4}$ inch.

Hab. Costa Rica, Irazu (*Rogers*).

4. **Antichloris anthracina.**

Euchromia (*Anycles*) *anthracina*, Walk. Cat. i. p. 253[1].
Antichloris anthracina, Butl. Journ. Linn. Soc., Zool. xii. p. 413; Lep. Het. i. p. 40, t. 9. f. 7.

Hab. Guatemala, Teleman, Vera Paz, Las Mercedes 3000 feet (*Champion*); Panama, Volcan de Chiriqui (*Ribbe & Champion*).—Venezuela[1]; Brazil[1].

ERIPHIA.

Eriphia, Felder, Reise Nov. Lep. iv. t. 102. f. 17, t. 29. f. 6; Butler, Journ. Linn. Soc., Zool. xii. p. 414.

This genus is very close to *Antichloris*; I very much doubt its being distinct, but as yet I have not sufficient material to decide this point.

1. **Eriphia tractipennis.** (Tab. VII. fig. 27.)

Eriphia tractipennis, Butler, loc. cit. p. 414[1].

Hab. Guatemala, Teleman, Panzos, Senahu (*Champion*); Honduras, San Pedro (*Whitely, mus. D.*); Nicaragua, Chontales[1] (*Janson*); Costa Rica (*Gabb, mus. D.*); Panama, Volcan de Chiriqui (*Ribbe*).—Colombia (*mus. D.*).

Fam. ARCTIIDÆ.

Subfam. *CHARIDEINÆ.*

Charideinæ, Butler, Journ. Linn. Soc., Zool. xii. pp. 408, 414.

Previously to the publication of Mr. Butler's paper referred to above, most of the genera and species of this subfamily were included in the Zygænidæ. I quite agree with Mr. Butler that the Charideinæ are more closely allied to the Arctiidæ than to the Zygænidæ, though really forming a connecting link between the two.

ACLYTIA.

Aclytia, Hübner, Verz. bek. Schmett. p. 123; Walker, Cat. i. p. 244; Butler, Journ. Linn. Soc., Zool. xii. p. 414, t. 29. f. 7.

This genus now contains about six species, all previously recorded from South and Central America.

1. **Aclytia heber.**

Sphinx heber, Cramer, Pap. Exot. iii. t. 287. f. *a*[1].

Aclytia heber, Hübner, Verz. bek. Schmett. p. 123; Grote, Notes on the Zygænidæ of Cuba, p. 5[2]; Butler, loc. cit. p. 414.

Sphinx halys, Cramer, Pap. Exot. iv. t. 357. f. *c*.

Aclytia halys, Hübner, Verz. bek. Schmett. p. 123.

Autochloris heber, Herr.-Schäff. Corr.-Bl. Reg. no. 8, p. 115.

Euchromia halys, Walk. Cat. i. p. 243[3].

Euchromia heber, Walk. Cat. i. p. 244[4].

Aclytia hylas, Butl. Ill. Lep. Het. i. p. 41, t. 10. f. 6.

Hab. Guatemala (*Dr. Staudinger*), Cerro Zunil (*Champion*); Honduras (*Dyson*)[4].—Cuba[2] (*Boucard, mus. D.*); Guiana, Surinam[1 3]; Lower Amazons to South-east Brazil.

I have very little doubt that the insects figured by Cramer as *Sphinx heber* and *S. halys* are the sexes of one species—an opinion confirmed by Mr. Grote, who, in his notes upon the Zygænidæ of Cuba, says that Prof. Poey sent them as the sexes of a single species. The Cuban examples in my collection are in all respects similar to those from Guatemala. The species seems liable to a certain amount of variation. In some examples the alar band is very narrow and broken into spots; in others it is wide, crossing the primaries from the costa to near the anal angle.

2. Aclytia punctata.

Aclytia punctata, Butl., Journ. Linn. Soc., Zool. xii. p. 414[1].

Hab. GUATEMALA, Teleman (*Champion*); HONDURAS[1] (*Dyson*).

I believe this to be an extreme form of *A. heber*.

3. Aclytia ventralis.

Glaucopis ventralis, Guér. Icon. Règne Anim., Ins. text, 503[1].

Aclytia ventralis, Walker, Cat. i. p. 245.

Hab. MEXICO[1].

This species is quite unknown to me.

4. Aclytia conspicua, sp. n. (Tab. VIII. fig. 23.)

Primaries black; secondaries whitish hyaline, with the apices and outer margins broadly black: head, antennæ, and palpi black, the head with a blue spot between the antennæ; thorax black, with two bright-red spots on each side, the first being at the back of the head, the second close to the base of the primaries; abdomen on the upperside metallic bluish-green, with two narrow black lines down the centre from the base to the apex, the underside of the abdomen pale citron-yellow; legs brownish black, the coxæ of the fore legs citron-yellow. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Las Mercedes 3000 feet, Volcan de Atitlan (*Champion*); PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

This species is very distinct from any other with which I am acquainted, and it is the largest of the genus. Dr. Staudinger has also received specimens taken by Herr Trötsch on the Volcano of Chiriqui.

CHARIDEA.

Charidea, Dalman, Vet. Ac. Handl. 1816, p. 225; Butler, Journ. Linn. Soc., Zool. xii. p. 415, t. 29. f. 11.

This genus now has about thirty species placed in it, several of which are of very little value, and when more material comes to hand will doubtless prove to be only slight varieties of other species. *Charidea* contains some of the most beautiful of all the moths, the metallic colours of their bodies and the undersides of their wings surpassing in brilliancy the bright blues of the Morphidæ. The genus is well represented in our country by about seven species.

1. Charidea submacula.

Euchromia (*Automolis*) *submacula*, Walk. Cat. i. p. 214[1].

Charidea submacula, Butl. loc. cit. p. 415; Lep. Het. i. p. 41, t. 13. f. 7.

Hab. MEXICO (*Boucard, mus. D.*); GUATEMALA, Teleman (*Champion*); COSTA RICA, Cartago (*Van Patten, mus. D.*); PANAMA, Volcan de Chiriqui (*Ribbe*).—VENEZUELA[1].

This species appears to be a very scarce insect in our country. I have only received very few examples; these are generally larger than those from Venezuela.

2. Charidea arrogans.

Euchromia (Automolis) arrogans, Walk. Cat. i. p. 214[1].

Charidea arrogans, Butl. Journ. Linn. Soc., Zool. xii. p. 415; Lep. Het. i. p. 42, t. 13. f. 12.

Hab. Mexico, Cordova (*Höge*); Guatemala, Cerro Zunil, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo, Tamahu, Panima (*Champion*); British Honduras, Rio Sarstoon (*Blancaneaux*); Panama, Veraguas (*Salvin, mus. D.*).—Venezuela (*Becker*)[1].

This species is found over a very extended range of country from Mexico to Venezuela, although it has not as yet been found in Costa Rica, its place being taken in that country by a very closely allied form. The examples from Mexico agree well with the type from Venezuela in the British Museum. In the examples from British Honduras the spots and band of the primaries are very much paler; but the specimens before me from that locality are in poor condition, and that may to some extent be the cause of the difference in colour.

3. Charidea costaricensis, sp. n.

(*Charidea arrogans*, var. *costaricensis*, Tab. VIII. fig. 20.)

Hab. Costa Rica, Cartago (*Van Patten, mus. D.*), Irazu 6000 to 7000 feet (*Rogers*); Panama (*Staudinger*).

This species is in every respect the same as *C. arrogans*, except in the colour of the outer margins of the secondaries, which are of the same pale yellow as the bands and spots of the primaries, instead of bright red as in *C. arrogans*. I have a large series of both before me. *C. arrogans* appears to be a common insect in Mexico and Guatemala, and *C. costaricensis* is equally common in Costa Rica, but as yet I have only seen a single example from Panama sent by Dr. Staudinger.

4. Charidea scintillans.

Euchromia scintillans, Butl. Lep. Exot. t. 61. f. 16[1].

Charidea scintillans, Butl. Journ. Linn. Soc., Zool. xii. p. 416.

Hab. Costa Rica (*Van Patten, mus. D.*[1]), Irazu, San Francisco, Rio Sucio (*Rogers*); Panama, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

As far as I am at present aware this species is only found in Costa Rica and Panama; its place being taken in Mexico and Guatemala by a very beautiful little species named by Walker *C. gloriosa*, which I believe to be the *Glaucopis bella* of Guérin.

5. Charidea panamensis, sp. n.

Primaries and secondaries deep black, shot with bright metallic blue at the base; a wide chrome-yellow central band crosses the primaries from the costal margin to the outer margin close to the anal angle; the outer margin of the secondaries bordered with chrome-yellow: head, thorax, and abdomen bright greenish blue; antennæ and palpi black. Expanse $1\frac{3}{4}$ inch.

Hab. Panama, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

This species is allied to *C. scintillans*, from which it can at once be distinguished by

the yellow band of the primaries extending to the outer margin and nearly to the anal angle, and the fringe being dirty white instead of bright carmine.

6. **Charidea bella.**

Glaucopis bella, Guérin, Icon. Règne Anim. texte, p. 502[1].
Charidea bella, Butl. Journ. Linn. Soc., Zool. xii. p. 416[2].
Charidea hæmalodes, Boisd. Lép. Guat. p. 82[3].
Charidea bivulnera, Grote et Robinson, Ann. Lyc. New York, vii. t. 2. f. 2[4].
Euchromia (Automolis) gloriosa, Walk. Cat. i. p. 215[5].
Charidea gloriosa, Butl. Lep. Het. i. p. 43, t. 10. f. 10[6].
Charidea eximia, Boisd. Lép. Guat. p. 82[7].

Hab. Mexico[3], Orizaba[1 2], Jalapa (*Höge*); British Honduras[3 4], Rio Sarstoon (*Blancaneaux*); Guatemala[3 4 5 6 7], San Gerónimo, Dueñas, Purula, Panima, and Senahu (*Champion*).

This extremely variable species ranges over a very wide extent of country. It has been described no less than five times by various authors. I have had an opportunity of examining several of the types and of comparing them with the fine series of specimens before me, but I am unable to detect any good specific differences whereby to recognize as distinct any of these slight varieties. I therefore place them all under Guérin's name, feeling certain that they represent nothing but individual specimens of a very variable insect.

7. **Charidea xenodice,** sp. n. (Tab. VIII. figg. 18 ♂, 19 ♀.)

Male. Primaries deep black, with a minute blue spot at the base, and a large elongated yellow spot near the apex, not reaching either the costal or outer margins; secondaries black, with the costal margin nearly to the apex broadly banded with yellow, the base and inner margin slightly shot with dark blue in some lights; antennæ and palpi black: head, thorax, and abdomen bright metallic green banded with black; legs black on the upperside, brown on the underside; the female differs from the male in being browner coloured and with the spots dirty white instead of yellow. Expanse, ♂ $1\frac{1}{2}$ inch, ♀ $1\frac{5}{8}$ inch.

Hab. Costa Rica, Irazu, Rio Sucio (*Rogers*).

This species is very distinct from any with which I am acquainted; it is best placed in the *C. arrogans* group. In Costa Rica it seems to be a very scarce insect, whence I have only seen a few examples taken by Mr. Rogers. Van Patten did not meet with it.

8. **Charidea griseldis,** sp. n. (Tab. VIII. fig. 21.)

Male. Primaries bright carmine-red, the apices and inner margins broadly banded with black; secondaries black, shaded with dark blue, underside the same as above, but shot with brilliant bluish green; antennæ and palpi black, the palpi bright green on the underside: head and front of thorax bright metallic green; thorax black; abdomen dark purple-blue. The female is slightly larger than the male, but in all other respects agrees well with it, except that it has not any blue colour on the underside. Expanse, ♂ $1\frac{1}{2}$ inch, ♀ $1\frac{5}{8}$ inch.

Hab. Mexico, Ciudad in Durango 8100 feet (*Forrer*).

A very distinct and handsome species.

ACREAGRIS.

Acreagris, Felder, Reise Nov. Lep. iv. t. 83. f. 2, Index, p. 1.

This genus appears to me to be closely allied to *Charidea*.

1. **Acreagris correbioides.**

Acreagris correbioides, Feld. Reise Nov. Lep. iv. t. 83. f. 2[1].

Hab. MEXICO (*Bilimek*)[1].

I have not seen a specimen of this species.

2. **Acreagris togata**, sp. n. (Tab. VI. fig. 8.)

Male. Primaries deep brick-red, the costal, outer, and inner margins narrowly bordered with black, the apices and fringe white; secondaries black, slightly glossed with very dark blue, the fringe at the apex white; antennæ, palpi, legs, and thorax black: head and abdomen dark glossy blue; the antennæ are rather deeply pectinated in the male, but quite simple in the female. Expanse, ♂ $1\frac{1}{4}$ inch, ♀ $1\frac{3}{8}$ inch.

Hab. GUATEMALA, San Gerónimo, Dueñas, Panajachel 5000 feet (*Champion*); COSTA RICA, Rio Sucio, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Bugaba (*Champion*).

The figure is taken from a female Guatemalan example; at the time the Plate was drawn I had not received a male.

METRIOPHYLA.

Metriophyla, Butler, Ill. Lep. Het. i. p. 43.

This genus is nearly allied to *Heliura*, but I think quite distinct.

1. **Metriophyla apicalis.**

Charidea apicalis, Herr.-Schäff. Samml. aussereur. Schmett. i. f. 236.

Heliura apicalis, Butl. Journ. Linn. Soc., Zool. xii. p. 417.

Histioca apicalis, Walk. Cat. vii. p. 1624.

Metriophyla apicalis, Butl. Ill. Lep. Het. i. p. 43, t. 8. f. 7.

Euchromia albiplaga, Walk. Cat. i. p. 218.

Hab. GUATEMALA, San Gerónimo (*Champion*); NICARAGUA, Chontales (*Belt*); PANAMA, Volcan de Chiriqui (*Arcé, mus. D.*), Bugaba (*Champion*).—VENEZUELA; BRAZIL.

The examples from Guatemala are not so bright in colour on the upperside as those from more southern countries, but in other respects they agree.

2. **Metriophyla alpha**, sp. n. (*Heliura alpha*, Tab. VIII. fig. 24.)

Primaries greenish black, slightly metallic green at the base, the apices white; secondaries dark bluish black, the base shot with metallic green, the fringe and outer margin edged with white; antennæ black: head, thorax, and abdomen bright blue-green. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

I have only received a single example of this beautiful little species. It is allied to *M. apicalis*, from which it differs in its much narrower primaries, in the absence of the blue marks on the upperside, and also in its smaller size.

HELIURA.

Heliura, Butler, Journ. Linn. Soc., Zool. xii. p. 417, t. 29. figs. 13, 17.

This genus was founded by Mr. Butler for the reception of eight species, some of which are extremely close to *Charidea*; but he has since taken out *H. apicalis* and proposed a new genus for it.

1. **Heliura leneus.**

Sphinx leneus, Cram. Pap. Exot. iii. t. 248. f. G.

Heliura leneus, Butl. Journ. Linn. Soc., Zool. xii. p. 418.

Hab. British Honduras, Belize (*Blancaneaux*); Panama, Volcan de Chiriqui (*Champion*).

This appears to be a very scarce insect; I have only received two examples. The specimen from Belize is much smaller than the one from Panama; it is in poor cond tion, and without more material I prefer keeping it with *H. leneus* for the present, though it is quite possible it may prove to be distinct.

2. **Heliura lamia.**

Heliura lamia, Butl. Ill. Typ. Lep. Het. i. t. 16. f. 3; Trans. Ent. Soc. 1878, p. 44.

Hab. Guatemala, Dueñas, Volcan de Atitlan (*Champion*); Costa Rica (*Gabb, mus. D.*). —N. Brazil.

The specimens from Guatemala agree in all respects with those from Costa Rica.

3. **Heliura testacea,** sp. n.

Primaries pale brown, slightly hyaline near the base, a slightly hyaline narrow band crossing the wing beyond the middle from the costal margin to near the anal angle; secondaries whitish hyaline, the apices and outer margins broadly bordered with black; thorax and abdomen pale brown: head, underside of thorax, and abdomen chrome-yellow; antennæ and palpi black; legs pale brown.

Hab. Guatemala, Pantaleon (*Champion*); Panama, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

This species is most nearly allied to *H. lamia*, though very distinct from that insect.

4. **Heliura atava,** sp. n.

Primaries brownish black; secondaries whitish hyaline, with the apices and outer margins broadly banded with black; thorax and the upper and under side of the abdomen brown, the sides bright metallic blue: the front of head, palpi, and antennæ brownish black; the back of the head and underside of the thorax pale carmine; legs brown. Expanse $1\frac{3}{4}$ inch.

Hab. Panama, Colon (*Boucard, mus. D.*).

This species differs from all others that I am acquainted with.

5. **Heliura solicauda.**

Heliura solicauda, Butl. Journ. Linn. Soc., Zool. xii. p. 418[1].

Hab. Honduras (*Dyson*)[1].

AUTOMOLIS.

Automolis, Hübner, Verz. bek. Schmett. p. 170 (1816); Butler, Journ. Linn. Soc., Zool. xii. p. 420, t. 29. f. 25 (1876).

Mr. Butler, in his paper on the Antichlorinæ, enumerates ten species belonging to this genus, none of which are found in our country, although it is well represented by the four species now described.

1. **Automolis grandis,** sp. n. (Tab. VIII. fig. 25.)

Primaries rich orange-yellow, the apex, inner margin, and anal angle narrowly bordered with black; secondaries orange-yellow, broadly bordered with black from the base to the apex: head, thorax, and abdomen above the same colour as the primaries, below deep black; the base of the abdomen on the upperside is crossed by a black band; antennæ, palpi, and legs black. Expanse $1\frac{3}{4}$ inch.

Hab. Costa Rica, Irazu (*Rogers*).

A single example.

2. **Automolis lucinia,** sp. n. (Tab. VIII. fig. 26.)

Primaries brownish black, the costal margin close to the base and a central longitudinal streak pale yellow; secondaries dark orange-yellow, broadly banded with black from the apex to the anal angle: head, thorax, and abdomen black, striped with metallic-green spots; antennæ, palpi, and legs black. Expanse $1\frac{3}{8}$ inch.

Hab. Costa Rica, Irazu (*Rogers*).

A single specimen.

3. **Automolis imitata,** sp. n. (Tab. VIII. fig. 27.)

Primaries black, the costal margin and a central, broad, longitudinal band chrome-yellow; secondaries black, with a broad costal orange streak: head, thorax, and abdomen yellow, with a wide central black band from the back of the head to the anus, which is slightly shaded with blue; antennæ black; palpi black above, yellow on the underside; legs black. Expanse $1\frac{5}{8}$ inch.

Hab. Mexico, Cordova (*Rümeli*), Jalapa (*Höge*); Guatemala, Las Mercedes, Senahu (*Champion*).

This species is allied to *A. fulgurata* from Espiritu Santo, from which it is easily distinguished by its paler colour and yellow abdomen.

4. **Automolis sicilia,** sp. n.

Primaries and secondaries pale citron-yellow, the apex of the primaries black, enclosing a short, whitish streak; the outer margin of the secondaries broadly banded with black: head, thorax, and the basal portion of the abdomen pale yellow, the anal half black, glossed with dark blue; legs brownish; the antennæ and palpi black. Expanse $1\frac{1}{2}$ inch.

Hab. Panama, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

I have only seen a single example of this very distinct species, which resembles *A. contraria*, Walker, from Ega. It can readily be distinguished from that species by the much smaller black apical spot, and by its entirely wanting the black outer margins of the primaries; it is also without the central black streak across the thorax.

ISCHNOGNATHA.

Ischnognatha, Felder, Reise Nov. Lep. t. 102. f. 2.

This genus appears to be close to *Automolis.*

1. **Ischnognatha godmani,** sp. n. (Tab. IX. fig. 1.)

Primaries with the basal two thirds brownish black, all the veins and the apical third pale yellow; secondaries pale yellow, the costal margin narrowly banded with black, the inner and outer margin broadly banded with black: the head and front of the thorax bright yellow, striped with brownish black; thorax brown; tegulæ brown and yellow; antennæ black; palpi pale yellow; abdomen black on the upperside, also the anal segments; the sides and under surface pale yellow; legs yellow and black. Expanse 2 inches.

Hab. PANAMA, Bugaba (*Champion*).

Sphinx rutilus of Cramer is allied to this species, and will come into this genus.

2. **Ischnognatha semiopalina.**

Ischnognatha semiopalina, Feld. Reise Nov. Lep. t. 102. f. 2[1].

Trichromia semiopalina, Boisd. Lép. Guat. p. 99[2].

Hab. NICARAGUA[2].—BRITISH GUIANA[1].

My only authority for including this species in our fauna is Boisduval's, who states that he received a single example from Nicaragua.

CRATOPLASTIS.

Cratoplastis, Felder, Reise Nov. Lep. t. 102. f. 8.

1. **Cratoplastis diluta.**

Cratoplastis diluta, Felder, Reise Nov. Lep. t. 102[1]. f. 8; Butl. Journ. Linn. Soc., Zool. xii. p. 430.

Hab. PANAMA, Bugaba (*Champion*).—AMAZONS (*Bates*)[1].

A single specimen of this curious species was obtained.

PIONIA.

Pionia, Walker, Cat. i. p. 255.

This genus was founded by Walker for the reception of an insect from Venezuela. Central America appears to be the head quarters of this genus, eight species occurring in our district, six of which are now described for the first time.

1. **Pionia lycoides.**

Pionia lycoides, Walk. Cat. i. p. 256[1]; Butl. Ill. Lep. Het. i. t. 8. f. 10[2].

Hab. BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*); PANAMA, Bugaba (*Champion*). —VENEZUELA (*Dyson*)[1]; ECUADOR (*mus. D.*); SOUTH-EAST BRAZIL[2].

In our country this species appears to be scarce. From Ecuador I have a good series of specimens, which do not differ in any respect from those from Central America.

2. **Pionia undulata,** sp. n. (Tab. IX. fig. 3.)

Primaries almost the same as in *P. lycoides*, but the fulvous bands are narrower; secondaries hyaline, the outer margins slightly black: head, front of thorax, and tegulæ brown; the back of thorax and base of the abdomen black; abdomen brown, with the anal third black; antennæ and palpi black; legs brownish black. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Panzos (*Champion*).

Of this species I have only received a single example, which differs considerably from *P. lycoides*. The wide fulvous band on the abdomen readily distinguishes it from that species.

3. **Pionia obtusa,** sp. n.

Male. Primaries fulvous, with the central black band narrow and almost broken into spots, the apical black spot much smaller than in *P. lycoides*; secondaries hyaline, with the costal margin pale brownish yellow, and a minute black spot at the apex: head and thorax brownish; abdomen with a central black band from the base to the anus, where it is broad and reaches the sides, the sides near the base and on the underside brownish yellow; antennæ black, with the base brown; palpi and legs all fulvous. The female slightly larger than the male, and with less black on the abdomen. Expanse, ♂ $1\frac{1}{2}$ inch, ♀ $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Torola (*Champion*).

This species is allied to *P. lycoides* and *P. undulata*, from both of which it differs in many respects, and principally in having the abdomen, legs, and palpi brownish yellow instead of black as in those species. The basal third of the antennæ also is brown.

4. **Pionia agnonides,** sp. n.

Primaries dark brownish yellow, with a V-shaped mark on the costal margins, and the apices black; secondaries hyaline, the outer margins slightly shaded with black: head and thorax fulvous; abdomen and legs black. Expanse $1\frac{1}{2}$ inch.

Hab. NICARAGUA, Chontales (*Belt, mus. D.*).

This specimen is in poor condition; it was in one of the first collections sent by the late Mr. Belt to the late Mr. Hewitson, who kindly forwarded the moths to me.

5. **Pionia affinis,** sp. n. (Tab. IX. fig. 4.)

Primaries uniform brownish yellow, with the apices black; secondaries blackish hyaline: head, thorax, and the sides of the abdomen the same colour as the primaries; antennæ, palpi, and abdomen black. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Teleman (*Champion*).

This species is allied to *P. agnonides*.

6. **Pionia calopteridia.**

Pionia calopteridia, Butl. Proc. Zool. Soc. 1878, p. 381[1].

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).—VENEZUELA[1]; LOWER AMAZONS, Para[1].

The examples before me agree well in all respects with Mr. Butler's type in the British Museum.

7. **Pionia elegans,** sp. n. (Tab. IX. fig. 6.)

Primaries light yellowish brown, darker on the inner margin, the apical spot glossy black; secondaries dusky hyaline, tinted with yellow near the base: head and thorax brownish yellow, with a narrow central black line; abdomen black, with a narrow yellow line on each side; antennæ, palpi, and legs black. Expanse 1 inch.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

A very distinct little species allied to *P. calopteridia*, from which it can easily be distinguished by the absence of the black band on the primaries.

8. **Pionia striata,** sp. n. (Tab. IX. fig. 5.)

Primaries dark orange-yellow, with a short black streak on the inner margin, and one near the apex; secondaries hyaline, clouded with black, darkest on the outer margin: the head and thorax orange-yellow; abdomen smoky black on the upperside; the sides and underside pale brown; antennæ black; palpi with the tips and the upperside black; the underside yellow; the legs black. Expanse $1\frac{1}{4}$ inch.

Hab. NICARAGUA, Chontales (*Belt, mus. D.*); PANAMA, Caldera, Bugaba, Volcan de Chiriqui (*Champion, Trötsch, mus. Staudinger*).

This species is quite distinct from any of its allies, but nearest to *P. elegans*, only without the black apical spot.

BELEMNIA.

Belemnia, Walker, Cat. i. p. 211; Butler, Journ. Linn. Soc., Zool. xii. p. 422, t. 29. f. 24.
=*Belemnia crameri,* Baker, *loc. cit.* p. 339, Journ. Linn. Soc., Zool. xii. p. 422.

Walker founded this genus for the reception of *Sphinx eryx*, Fabricius. It now has four species placed in it, one of which occurs pretty commonly in our country, and as far south as Panama.

1. **Belemnia jovis.** (Tab. VIII. fig. 22.)

Belemnia jovis, Butl. Ann. & Mag. Nat. Hist. 4th ser. xv. p. 339[1]; Journ. Linn. Soc., Zool. xii. p. 422[2].

Hab. GUATEMALA, Senahu (*Champion*); BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*); HONDURAS [1] [2] (*Miller*); COSTA RICA (*Van Patten, mus. D.*); PANAMA, Veraguas (*Salvin*) [1] [2], Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

This fine species appears to be pretty common, though very local, in Guatemala. I have received but few specimens from any other locality.

APICONOMA.

Apiconoma, Butler, Journ. Linn. Soc., Zool. xii. p. 422, t. 29. f. 22.

Mr. Butler states that this genus is allied to *Automolis*.

1. **Apiconoma ventralis.**

Glaucopis ventralis, Guérin, Ic. Règne Anim. texte, p. 503[1].
Apiconoma? ventralis, Butl. Journ. Linn. Soc., Zool. xii. p. 422.

Hab. MEXICO [1].

This species is quite unknown to me.

RHIPHA.

Rhipha, Walker, Cat. i. p. 273; Butler, Journ. Linn. Soc., Zool. xii. p. 423, t. 29. f. 21.

Walker founded this genus for the reception of an insect from Rio Janeiro.

1. **Rhipha subulifera.**

Eucyrta subulifera, Feld. Reise Nov. Lep. iv. t. 102. f. 3 [1].

Rhipha strigosa, Butl. Journ. Linn. Soc., Zool. xii. p. 423; Ill. Lep. Het. i. t. 9. f. 12 (nec Walker).

Hab. PANAMA [1].

Mr. Butler places Dr. Felder's species as a synonym of Walker's. I think he must have done so without comparing the two species. *R. subulifera* has white secondaries bordered with black, also a white head, and a central white spot on the thorax. In *R. strigosa* the secondaries are quite black, also the head and thorax. I have very little doubt but that they are two very distinct species.

SUTONOCREA.

Sutonocrea, Butler, MS. in Mus. Brit.

1. **Sutonocrea tripunctata,** sp. n. (Tab. IX. fig. 2.)

Primaries uniform pale yellow, the base from the costal margin to the hind margin greenish black; a spot at the end of the cell, one at the anal angle, and one beyond nearer the apex greenish black, and a narrow greenish-black band crossing from the costal to the outer margin close to the apex: front of head and a central spot on the thorax bright bluish green; head, thorax, and abdomen yellow; antennæ and palpi black; fore legs with the coxæ and femora yellow, the tibiæ and tarsi black, banded with white. Expanse $1\frac{3}{8}$ inch.

Hab. PANAMA (*Ribbe, mus. Staudinger*).

This pretty species is very distinct from any other with which I am acquainted.

EMPUSA.

Empusa, Hübner, Verz. bek. Schmett. p. 170; Butler, Journ. Linn. Soc., Zool. xii. p. 423.

1. **Empusa vitrea.**

Phalæna vitrea, Cram. Pap. Exot. iii. t. 276. f. C.

Empusa vitrea, Walk. Cat. iii. p. 644 [1]; Butl. Journ. Linn. Soc., Zool. xii. p. 423 [2].

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, Rio Maria Linda, Cerro Zunil (*Champion*); PANAMA, San Feliz, Bugaba, Volcan de Chiriqui (*Champion*).—GUIANA, Surinam [1]; BRAZIL, Rio Janeiro [1 2].

This species is widely distributed in Central America, but is nowhere common.

2. **Empusa tybris.**

Phalæna tybris, Cram. Pap. Exot. iii. t. 92. f. D [1].

Empusa tybris, Walk. Cat. iii. p. 645; Butl. Journ. Linn. Soc., Zool. xii. p. 424.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).—GUIANA, Surinam [1].

Two examples of this species were sent, both of which agree well with Cramer's figure.

GALETHALEA.

Galethalea, Butler, Journ. Linn. Soc., Zool. xii. p. 424.

Mr. Butler includes three species in this genus, one of these occurring in our country.

1. **Galethalea confinis.**

Charidea confinis, Herr.-Schäff. Samml. aussereur. Schmett. f. 277 [1].
Galethalea confinis, Butl. Journ. Linn. Soc., Zool. xii. p. 424.

Hab. GUATEMALA, San Gerónimo (*Champion*).—BRAZIL [1].

This species appears to be scarce. I have only three specimens, a male and two females.

EPANYCLES.

Epanycles, Butler, Journ. Linn. Soc., Zool. xii. p. 425, t. 29. f. 18.

1. **Epanycles imperialis.**

Pampa imperialis, Walk. Cat. i. p. 241 [1].
Epanycles imperialis, Butl. Journ. Linn. Soc., Zool. xii. p. 426.

Hab. GUATEMALA, Panzos (*Champion*).—BRAZIL, Santarem [1].

Only a single example of this species was sent. This agrees in all respects with Walker's type in the British Museum.

2. **Epanycles obscura.**

Aclytia obscura, Möschler, Stett. ent. Zeit. 1872, xxxiii. p. 348.
Epanycles obscura, Butl. Trans. Ent. Soc. 1878, p. 46 [1].
Epanycles stellifera, Butl. Ill. Lep. Het. i. t. 16. f. 10.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).—AMAZONS [1].

3. **Epanycles gigantea,** sp. n. (Tab. IX. fig. 7.)

Primaries pale brown, with silvery white lines and minute spots, and a dark brown spot about the middle on the costal margin; secondaries whitish hyaline, dusky at the anal angle and along the outer margin: head, palpi, and antennæ black; thorax and basal half of the abdomen brown, the anal half chrome-yellow; the anus black; the underside of the abdomen brown, with a white line on each side; legs brownish black, spotted with white on the upperside. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui 4000 to 6000 feet, Bugaba 800 to 1500 feet (*Champion*).

The figure is from a Guatemala example; this is slightly worn, and does not show the pale lines as in some of the Panama examples which I received after the Plate was drawn. This species is much the largest of the genus, but the neuration, antennæ, and palpi agree well with those of *E. obscura.*

EUAGRA.

Euagra, Walker, Cat. ii. p. 323.

This genus now has five or six species placed in it, only one as yet having been found in our country, the others in South America.

1. **Euagra hæmanthus.**

Dioptis hæmanthus, Walk. Cat. ii. p. 324[1].

Euagra hæmanthus, Butl. Cist. Ent. ii. p. 111[2].

Hab. MEXICO[1 2]; GUATEMALA, El Tumbador 2500 feet, Zapote, Lanquin (*Champion*); COSTA RICA, Cartago (*Van Patten, mus. D.*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).

This species has a very wide range in our country, but it appears to be scarce. I have only received a few examples, mostly single specimens, from each locality. The specimens before me do not show the slightest variation.

MYDROMERA.

Mydromera, Butler, Cist. Ent. ii. p. 112.

1. **Mydromera isthmia.**

Euagra isthmia, Feld. Reise Nov. Lep. iv. t. 105. f. 24[1].

Mydromera isthmia, Butl. Cist. Ent. ii. p. 112.

Agyrta molckeni, Staudinger, Verh. k.-k. zool.-bot. Ges. Wien, 1875, p. 121.

Hab. GUATEMALA, Torola 1000 feet, Las Mercedes, Teleman, Panima (*Champion*); BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*); NICARAGUA, Chontales (*Belt*).—COLOMBIA, Muzo (*Chesterton, mus. D.*); AMAZONS[1].

This insect appears to be pretty common in Guatemala, but from other localities further south I have only received a few examples.

METASTATIA.

Metastatia, Butler, Cist. Ent. ii. p. 115.

Mr. Butler founded this genus for the reception of Hübner's *Hyelosia pyrrhorhœa.*

1. **Metastatia saphira.**

Agyrta saphira, Staudinger, Verh. k.-k. zool.-bot. Ges. Wien, 1875, p. 122[1].

Hab. GUATEMALA, Panima, Las Mercedes (*Champion*); PANAMA, Volcan de Chiriqui[1] (*Ribbe, mus. Staudinger*), Caldera (*Champion*).

Subfam. *CTENUCHINÆ.*

PHILOROS.

Philoros, Walker, Cat. ii. p. 283.

1. **Philoros rubriceps.**

Ctenucha (Philoros) rubriceps, Walk. Cat. ii. p. 283[1].

Philoros rubriceps, Butl. Journ. Linn. Soc., Zool. xii. p. 429.

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, Dueñas, Purula, San Gerónimo (*Champion*). —COLOMBIA[1]; VENEZUELA[1].

2. **Philoros venosa.**

Ctenucha (Philoros) venosa, Walk. Cat. ii. p. 284[1].

Ctenucha venosa, Stretch, Zygænidæ et Bombycidæ North America, p. 31, t. 1. f. 10[2]; Boisd. Lép. Guat. p. 83[3].

Philoros venosa, Butl. Journ. Linn. Soc., Zool. xii. p. 429.

Hab. NORTH AMERICA, Texas[2], Arizona (*Morrison, mus. D.*).—MEXICO[1 3], Milpas 5900 feet (*Forrer*); GUATEMALA, San Joaquin, Quiche Mountains 9000 feet, San Gerónimo (*Champion*); HONDURAS[3]; COSTA RICA (*Boucard, mus. D.*), Irazu 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Ribbe*), Bugaba (*Champion*).—ECUADOR (*mus. D.*); VENEZUELA[1].

This common species is very variable: in some specimens the streaks on the primaries are dark orange-yellow, from which they vary to pale yellowish white; in others the pale marks vary much in width.

3. **Philoros ruficeps.** (Tab. IX. fig. 8.)

Ctenucha (Philoros) ruficeps, Walk. Cat. ii. p. 284[1].

Philoros ruficeps, Butl. Journ. Linn. Soc., Zool. xii. p. 429.

Ctenucha opaca, Boisd. Lép. Guat. p. 84[2].

Hab. MEXICO[1] (*mus. Staudinger*); GUATEMALA[2]; HONDURAS[2].

The figure is from Dr. Staudinger's specimen, which agrees well with Walker's type in the British Museum.

CTENUCHA.

Ctenucha, Kirby, Fauna-Bor. Amer. iv. p. 305.

This genus is most thoroughly described by Dr. Packard in his "Notes on the Family Zygænidæ" (Proc. Essex Inst. iv. p. 33).

The species placed under this genus by Boisduval in his Lepidoptera of Guatemala do not belong to it.

1. **Ctenucha robinsoni.**

Ctenucha robinsonii, Boisd. Lép. Calif. p. 71.

Hab. MEXICO, Sonora.

This species is unknown to me.

2. **Ctenucha votiva.**

Ctenucha votiva, H. Edwards, Papilio, iv. p. 13.

Hab. MEXICO, State of Vera Cruz (*Schaus*).

3. **Ctenucha proxima.**

Ctenucha proxima, H. Edwards, Papilio, iv. p. 14.

Hab. MEXICO, State of Vera Cruz (*Schaus*).

4. **Ctenucha modulata.**

Ctenucha modulata, H. Edwards, Papilio, iv. p. 14.

Hab. MEXICO, State of Vera Cruz (*Schaus*).

5. **Ctenucha bimaculata.**

Ctenucha bimaculata, Feld. Reise Nov. Lep. t. 103. f. 4[1].

Hab. GUATEMALA[1].

6. **Ctenucha affinis,** sp. n.

Closely allied to *C. bimaculata*, the only difference being the absence of the white spot at the apex of the primaries.

Hab. GUATEMALA, San Gerónimo (*Champion*).

I have before me two males and two females of this moth; they do not show the slightest indication of the apical white spots. I have, therefore, ventured to describe it as a separate species.

LEUCOPSUMIS.

Leucopsumis, Hübner, Verz. bek. Schmett. p. 177; Walker, Cat. ii. p. 310.

1. **Leucopsumis circe.**

Bombyx circe, Cram. Pap. Exot. iii. t. 263. f. D, t. 274. f. E[1].

Leucopsumis circe, Hübn. Verz. bek. Schmett. p. 177.

Iosia circe, Walk. Cat. ii. p. 311[2].

Evagra affinis, Boisd. Lép. Guat. p. 88[3].

Hab. NICARAGUA[3].—ECUADOR, Guayaquil[3]; VENEZUELA to BRAZIL[1 2].

I think it doubtful if this species occurs in our country. I only include it here on the authority of Boisduval. In South America it is a common species.

THEAGES.

Theages, Walker, Cat. iii. p. 721.

This genus is scarcely distinct from *Eucereon.*

1. **Theages quadricolor.**

Theages quadricolor, Walk. Cat. iii. p. 722[1]; Butl. Journ. Linn. Soc., Zool. xii. p. 430.

Hab. PANAMA, Volcan de Chiriqui (*Champion, Ribbe*).—BRAZIL[1].

2. **Theages leucophæa.** (Tab. IX. fig. 9.)

Theages leucophæa, Walk. Cat. iii. p. 722[1]; Butl. Journ. Linn. Soc., Zool. xii. p. 430.

Hab. GUATEMALA, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).—ECUADOR (*Buckley, mus. D.*); S.E. BRAZIL[1].

The specimen from Panama agrees well with those from Brazil. The Guatemala example is figured; it is rather more highly coloured than the other specimens.

EUCEREON.

Eucereon, Hübner, Verz. bek. Schmett. p. 123.

This genus, containing a considerable number of species, is well represented in our country by about twenty-two, ten of which are new and now described. The species can be divided into three groups:—(1) those with yellow on the abdomen, (2) those with red abdomen, and (3) those with the abdomen brown, with the apex yellow.

1. **Eucereon varium.**

Euchromia varia, Walk. Cat. i. p. 266[1]; Butl. Lep. Het. t. 9. f. 5; Trans. Ent. Soc. 1878, p. 48.

Hab. PANAMA, Chiriqui (*Arcé, mus. D., Ribbe, mus. Staudinger*).—COLOMBIA; AMAZONS, Para[1].

The ground-colour of the primaries in the Chiriqui examples is rather paler than in the type, but in other respects they appear to belong to the same species. I have a specimen before me from Bogotá that is rather darker in colour than those from Chiriqui, but not so dark as those from Para.

2. **Eucereon abdominale.**

Carales abdominalis, Walk. Cat. iii. p. 731[1].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—VENEZUELA[1].

A single example of this insect was obtained; it agrees fairly well with the type in the British Museum.

3. **Eucereon myrina,** sp. n. (Tab. IX. fig. 10.)

Primaries semitransparent, white, with a number of black spots (encircled with yellowish white) close to the base, a cluster of black spots round the end of the cell, a marginal and submarginal row of spots extending from the costal to the inner margin, black, bordered with yellow, the fringe silky white; secondaries semitransparent, greyish white, the outer margin narrowly bordered with black, the fringe silky white: head and thorax dark grey, spotted with black, the collar yellow; abdomen yellow, with a band of black spots on either side, and one down the centre; on the underside the primaries and secondaries are tinted with yellow close to the base. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

Of this very distinct and pretty species Mr. Champion only obtained a single example.

4. **Eucereon setosum.**

Phalæna setosa, Sepp, Anon. Ins. Surinam, i. p. 25, t. 9 [1].

Eucerea setosa, Walk. Cat. vii. p. 1641.

Hab. MEXICO, Presidio (*Forrer*).—GUIANA, Surinam [1].

The two specimens received agree well with Sepp's figure.

5. **Eucereon tripunctatum**, sp. n. (Tab. IX. fig. 12.)

Primaries pale brown, mottled with a number of fine dark lines, three dark brownish spots almost in a straight line from the apex to the base, the basal spot being the largest; secondaries brownish, slightly hyaline from the base to the middle: head, thorax, and basal portion of the abdomen dark brown, the abdomen yellow, the anus, a central band of spots, and one on each side brownish black; antennæ black; palpi black at the base, the points pale brown; legs light brown, the underside of the abdomen pale yellow. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*): PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

In Guatemala Mr. Champion only met with a single example of this insect, but from Panama he sent several.

6. **Eucereon archias.**

Sphinx archias, Stoll, Cram. Pap. Exot. v. t. 14. figg. 9, 10 [1].

Eucereon archias, Hübn. Verz. bek. Schmett. p. 123.

Euchromia archias, Walk. Cat. i. p. 267 [2].

Eucereon archias, Butl. Trans. Ent. Soc. 1878, p. 48.

Hab. MEXICO, Cordova (*Rümeli*): GUATEMALA, Pantaleon 1700 feet (*Champion*).—GUIANA, Surinam [1] [2]; SOUTH-EAST BRAZIL (*mus. D.*).

The specimens of this species agree well with Cramer's figure.

7. **Eucereon latifascia.**

Eucerea latifascia, Walk. Cat. vii. p. 1639 [1].

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, San Gerónimo (*Champion*); PANAMA, Bugaba (*Champion*).—LOWER AMAZONS, Para [1].

The examples before me agree well with Walker's type in the Oxford Museum.

8. **Eucereon myrtusa**, sp. n.

Primaries dark brown, banded and speckled with pale greyish-brown scales; secondaries dusky, slightly hyaline near the base: head and thorax brown, banded with darker brown; abdomen red; the anus, a central band of spots, and one on each side black, the underside yellowish; legs, palpi, and antennæ brown; the underside of the primaries uniform pale brown. Expanse $1\frac{3}{4}$ inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*).

A single example of this dull-coloured insect was sent. It is most like *E. tripunctatum*, from which it is at once distinguished by the body being bright red.

9. **Eucereon tetragramma.**

Euchromia tetragramma, Walk. Cat. i. p. 268[1].

Hab. Costa Rica (*Van Patten, mus. D.*); Honduras[1].

Only a single example of this insect was sent by Van Patten.

10. **Eucereon roseum.**

Euchromia rosa, Walk. Cat. i. p. 271[1].

Eucereon rosa, Butl. Trans. Ent. Soc. 1878, p. 48[2].

Hab. Honduras (*Dyson, mus. Brit.*)[1].—Amazons[2].

The only specimen of this insect known to me is the type.

11. **Eucereon rhodophila.**

Eucerea rhodophila, Walk. Cat. vii. p. 1638[1].

Hab. Mexico, Cordova (*Rümeli*); Guatemala, San Gerónimo (*Champion*).—Valley of the Amazons[1].

I regret that I have been unable to examine the type of this species; but Walker's description agrees well in all respects with the specimens before me, and I have very little hesitation in attaching this name to them.

12. **Eucereon pilatii.**

Euchromia pilatii, Walk. Cat. i. p. 270[1].

Hab. Mexico, Presidio (*Forrer*), Yucatan (*mus. Brit.*); Honduras (*Dyson, mus. Brit.*)[1]. —Brazil[1].

A small species, which appears to be very scarce, as only two examples have come before me.

13. **Eucereon maia**, sp. n. (Tab. IX. fig. 13.)

Primaries pale reddish brown, with four or five indistinct dark patches beyond the middle nearest the apex; secondaries creamy white, slightly margined with pale brown from the apex to the middle of the outer margin: head and thorax brown; abdomen red; the anus and a very minute central band of spots black; antennæ and palpi brown. Expanse $1\frac{1}{4}$ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).—Ecuador, Sarayacu (*Buckley, mus. D.*).

In Costa Rica and Ecuador this species appears to be pretty common; but I have only seen a single example from Panama. Mr. Champion did not meet with it.

14. **Eucereon högei**, sp. n.

Primaries greyish white, crossed by four irregular dark greyish-brown bands, between which are several small spots; secondaries dirty white: head and thorax white; abdomen very pale pink, with a row of black spots on each side; palpi white; antennæ black, with the tips white. Expanse $1\frac{1}{2}$ inch.

Hab. Mexico, Jalapa (*Höge*).

Only a single example of this species was obtained; it resembles *E. abdominale*, but

it is much more clearly marked, and has the abdomen pale pink instead of brown, as in that species.

15. **Eucereon arenosum.**

Eucereon arenosum, Butl. Ill. Lep. Het. i. p. 51, t. 17. f. 10[1]; Trans. Ent. Soc. 1878, p. 48.

Hab. GUATEMALA, Cubilguitz in Vera Paz, Volcan de Atitlan 2500 to 3000 feet (*Champion*).—AMAZONS [1].

The specimen from Cubilguitz agrees well with Mr. Butler's type, but that from the Volcan de Atitlan is rather smaller, darker in colour, and has the spots somewhat closer together. It is quite possible the latter may belong to a different species; but only having a single example I do not feel certain upon this point.

16. **Eucereon leria,** sp. n. (Tab. IX. fig. 14.)

Primaries pale brown, thickly covered with black spots bordered with yellow, a white spot at the base, several white spots across the middle of the wings, from near the costal margin to the inner margin, two white spots beyond the end of the cell, beyond which, and near the anal angle, a narrow white line; secondaries dusky hyaline: head and thorax brown with darker spots, the collar yellow; the abdomen pinkish carmine, the anus black; palpi yellow in front; antennæ black, rather deeply pectinated. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*), 3000 to 4000 feet (*Champion*).—ECUADOR and BOLIVIA (*Buckley, mus. D.*).

The figure is from Dr. Staudinger's specimen, with which the examples before me, taken by Mr. Buckley, agree well in all respects. That taken by Mr. Champion is smaller and has more white on the primaries, but I believe it is without doubt referable to this species.

17. **Eucereon costulatum.**

Charidea costulata, Herr.-Schäff. Samml. aussereur. Schmett. f. 276.

Ctenucha costulata, Walk. Cat. xxxi. p. 131 [1].

Hab. MEXICO, Cordova (*Rümeli*); GUATEMALA, San Gerónimo, Zapote (*Champion*); COSTA RICA, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 6000 feet (*Champion*).—VENEZUELA [1].

This species appears to be very common in Guatemala and Panama, but from Costa Rica I have only seen a single example. It is a very variable species, both in size and colour; the smallest examples are from Guatemala, those from Panama are much yellower in colour than any of the others, but I cannot detect any differences sufficiently marked to enable me to separate them.

18. **Eucereon minutum,** sp. n.

Primaries brown, mottled with darker brown; secondaries pale brown, the fringe silky white: head, thorax, and abdomen dark brown; the anus and last segments bright yellow; antennæ brown, yellowish-white at the tips; legs brown. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Bugaba (*Champion*).

A single example only of this small species was obtained.

19. **Eucereon lutetia,** sp. n. (Tab. IX. fig. 11.)

Primaries dark brown, with a whitish spot on the costal margin, close to the apex; secondaries dusky brown, slightly whitish hyaline at the base: head, thorax, and basal half of the abdomen dark brown, the collar and lower half of the abdomen pale yellow; antennæ and palpi brown. Expanse 1 inch.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

20. **Eucereon rogersi,** sp. n. (Tab. IX. fig. 15.)

Male. Primaries with the ground-colour very pale brown, almost white near the apex, thickly covered with a series of irregular bands of black spots, bordered with yellow; the secondaries whitish hyaline, with the outer margins bordered with blackish brown: head, thorax, and part of the abdomen, also the anus, all black; the collar, sides, and anal segments of the abdomen bright yellow; the underside almost white; antennæ and palpi black; the legs black. The female is the same as the male, but rather larger, and the spots not quite so close together. Expanse $1\frac{3}{4}$ inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).

PHRAGMATOBIA.

Phragmatobia, Stephens, Ill. Brit. Ent. Haust. ii. p. 73.

Walker places seven species in this genus.

1. **Phragmatobia albicosta.**

Phragmatobia albicosta, Walk. Cat. iii. p. 630[1].

Hab. MEXICO[1], Presidio (*Forrer*), Jalapa (*Höge*); NICARAGUA, Chontales (*Belt*).

This species seems to me to belong to a genus distinct from *Phragmatobia*, but at present I have not sufficient material to enable me to settle this point with certainty.

GIPPIUS.

Gippius, Walker, Cat. iii. p. 633.

1. **Gippius sumptuosus.** (Tab. IX. fig. 16.)

Gippius sumptuosus, Walk. Cat. iii. p. 634[1].

Hab. MEXICO, Presidio (*Forrer*); HONDURAS[1].

The figure of this curious species is taken from a Mexican example, which agrees well with the type from Honduras in the British Museum.

EVIUS.

Evius, Walker, Cat. iii. p. 639.

Walker places six species in this genus, several of which have been now put into other genera.

1. **Evius hippia.**

Phalæna hippia, Stoll, Cram. Pap. Exot. v. t. 12. f. 8[1].

Empusa hippia, Hübn. Verz. bek. Schmett. p. 170.

Evius hippia, Walk. Cat. iii. p. 640; Butler, Journ. Linn. Soc., Zool. xii. p. 431.

Hab. PANAMA, Bugaba 800 to 1000 feet (*Champion*).—GUIANA, Surinam [1].

Of this species Mr. Champion only obtained a single example, which agrees well with Stoll's figure.

2. **Evius lineatus,** sp. n. (Tab. IX. fig. 17.)

Primaries creamy white, thickly lined with brownish black, the ground-colour near the base brownish; secondaries uniform pale yellow: head, thorax, and the upperside of the abdomen dark yellow, the front and base of thorax spotted with black; the underside of the abdomen and the anus white; legs white; antennæ brownish white at the tips. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, San Lorenzo (*Champion*).

A single example of this pretty little species was obtained.

IDALUS.

Idalus, Walker, Cat. iii. p. 645.

Walker founded this genus for the reception of *Phalæna admirabilis,* Cram., a South-Brazilian insect.

1. **Idalus crinis,** sp. n. (Tab. IX. fig. 18.)

Primaries glossy white, a spot at the base and a narrow band crossing beyond the middle from the costal to the inner margin pale brown, bordered with a narrow black line on each side; between it and the base are two central yellow spots, three minute black streaks close to the anal angle, and one beyond on the outer margin near the apex; secondaries pure white, tinted with carmine on the inner margin: head and thorax white, spotted with red and yellow; abdomen bright carmine above; the anus, a central band of minute spots, and the underside white; antennæ brownish black, pale at the tips. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Presidio (*Forrer*).

I have only received a single example of this insect; it is allied to *I. admirabilis,* but very distinct.

2. **Idalus critheis,** sp. n. (Tab. IX. fig. 19.)

Primaries deep citron-yellow, crossed about the middle from the costal margin to near the anal angle by a narrow band of black spots, bordered on the inner side by a white band almost as wide, the base white, with a few black spots near the inner margin; secondaries yellowish white: head and central part of thorax deep yellow, front and base of thorax white; abdomen bright carmine on the upperside; the anus and underside white; antennæ and fore legs brownish black; hind legs white. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

This species resembles *I. admirabilis,* from which it is easily distinguished by the very much narrower black band crossing the primaries, and the entire absence of the red spots which are always present in that species.

NERITOS.

Neritos, Walker, Cat. iii. p. 711; Butl. Journ. Linn. Soc., Zool. xii. p. 431.

The type of this genus is *Neritos repanda*, Walk., from Rio Janeiro.

1. **Neritos flavo-roseus.**

Evius flavo-roseus, Walk. Cat. iii. p. 640[1].

Neritos flavo-roseus, Butler, loc. cit. p. 431.

Hab. Honduras[1].

2. **Neritos laodamia**, sp. n. (Tab. IX. fig. 20.)

Primaries pale yellow, very much clouded with reddish brown; secondaries whitish hyaline: head and thorax yellowish brown; the abdomen pinkish yellow on the upperside; the anus and underside brownish yellow; antennæ brown; the underside of primaries with a black spot at the base, and the dark markings the same as above, but pale pink. Expanse $1\frac{3}{8}$ inch.

Hab. Panama, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

I have only seen a single example of this pretty species.

3. **Neritos asana**, sp. n. (Tab. IX. fig. 21.)

Primaries pinkish brown, with several small red spots near the base, a semihyaline yellowish-white elongated spot on the costal margin near the apex, brown at the anal angle; secondaries pale pink: head and thorax pale reddish brown; palpi red; antennæ brown, the tips white; abdomen red on the upperside, pale yellowish brown on the underside. Expanse ♂ 1, ♀ $1\frac{1}{4}$ inch.

Hab. Panama, Volcan de Chiriqui (*Ribbe, mus. D., Champion*), Bugaba 800 to 1500 feet (*Champion*).

The figure is from a female example taken by Mr. Champion; the male only differs in being smaller in size.

4. **Neritos chozeba**, sp. n. (Tab. IX. fig. 22.)

Primaries reddish brown, thickly powdered with brown scales, from the apex to the anal angle much paler than any other part of the wings; secondaries creamy white: head, thorax, and palpi reddish brown; abdomen red; the anus yellow; antennæ black. Expanse $1\frac{1}{2}$ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

A single specimen of this species was received; it does not agree well with the genus *Neritos*, but without examining more specimens I should not like to make it into a new genus.

5. **Neritos amastris**, sp. n. (Tab. IX. fig. 23.)

Primaries reddish brown, with a number of orange-coloured spots bordered with red extending from the base to beyond the middle; a yellowish-white dot bordered with red below the costal margin and nearest the apex; secondaries pinkish hyaline, darkest round the outer margin, the fringe yellow: head, thorax, and abdomen reddish yellow; antennæ black, with the tips white. Expanse $1\frac{1}{4}$ inch.

Hab. Guatemala, Las Mercedes 3000 feet (*Champion*).

This species is allied to *N. asana*, from which it can readily be distinguished by the absence of the yellowish-white mark near the apices of the primaries.

ELYSIUS.

Elysius, Walker, Cat. iii. p. 713.

This genus appears to be very closely allied to *Ammalo*.

1. **Elysius dorothea.**

Phalæna dorothea, Cram. Pap. Exot. iv. p. 228, t. 397. f. K [1].
Elysius dorothea, Walk. Cat. iii. p. 715.
Zatrephes dorothea, Hübn. Verz. bek. Schmett. p. 171.

Hab. PANAMA, Volcan de Chiriqui (*Arcé, mus. D.*).—GUIANA, Surinam [1].

A single example, in poor condition, of what I believe to be this species.

2. **Elysius russatus.**

Elysius russatus, H. Edwards, Pap. iv. p. 60.

Hab. MEXICO, State of Vera Cruz (*Schaus*).

3. **Elysius clitus,** sp. n.

Primaries and secondaries uniform deep chrome-yellow: head, thorax, and abdomen the same colour; antennæ and palpi black; legs brownish yellow. Expanse $1\frac{3}{4}$ inch.

Hab. COSTA RICA (*Boucard, mus. D.*).

4. **Elysius conspersus.** (Tab. IX. fig. 25.)

Elysius conspersus, Walk. Cat. iii. p. 714 [1].

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet, Bugaba (*Champion*).—AMAZONS, Para [1].

The Bugaba example is figured.

AMMALO.

Ammalo, Walker, Cat. iii. p. 622; Butl. Journ. Linn. Soc., Zool. xii. p. 432.

1. **Ammalo chrysogaster.**

Halesidota chrysogaster, Walk. Cat. xxxi. p. 312 [1].
Ammalo chrysogaster, Butl. loc. cit. p. 432.

Hab. MEXICO, Mazatlan (*ex coll. Sommer in mus. Staudinger*), Cordova (*Höge*), Valladolid in Yucatan (*Gaumer*); COSTA RICA (*Van Patten*).—COLOMBIA, Bogota [1].

In Costa Rica this species appears to be common; Dr. Van Patten sent a good series of specimens.

MAZÆRAS.

Mazæras, Walk. Cat. iii. p. 632.

Walker founded this genus for the reception of a South-Brazilian insect. I quite agree with Mr. Butler in including Walker's *Halesidota sanguineata* in this genus. *Phalæna sanguinolenta* will also come here.

1. **Mazæras ipsea,** sp. n. (Tab. IX. fig. 24.)

Primaries pale citron-yellow, from the base along the costal margin, and extending across the wing to the

inner margin, reaching the anal angle, where it is joined by a narrow band from the apex, all pale pinkish brown; near the base are several small yellow spots bordered with red, a narrow broken red line extending from the apex to the anal angle, and a submarginal row of very minute brownish spots; secondaries bright pink: head and front of thorax bright yellow; abdomen red; the anus and underside yellowish white; antennæ black, with the tips white; legs yellow above, white on the underside. Expanse $1\frac{3}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger, Champion*).

Two examples. The figure is taken from the one in Dr. Staudinger's collection; the other, obtained by Mr. Champion, is much faded and worn, but has indications of a brown marking at the anal angle of the secondaries. In other respects the specimens agree fairly well, and I have no doubt that they are referable to the same species.

HALISIDOTA.

Halisidota, Hübner, Verz. bek. Schmett. p. 170.
Halesidota, Walk. Cat. iii. p. 732.

1. **Halisidota tessellaris.**

Phalæna tessellaris, Abb. & Smith, Lep. Ins. Georgia, ii. t. 75 [1].
Halisidota tessellaris, Hübn. Verz. bek. Schmett. p. 170; Walk. Cat. iii. p. 732 [2]; Grote, Proc. Ent. Soc. Phil. v. p. 242.

Hab. NORTH AMERICA [1].—MEXICO [2] (*Boucard, mus. D.*).

A single specimen from Mexico, agreeing well with North-American specimens, is in my collection.

2. **Halisidota cinctipes.**

Halisidota cinctipes, Grote, Proc. Ent. Soc. Phil. v. p. 242 [1]; H. Edwards, Papilio, iv. p. 76 [2].

Hab. NORTH AMERICA [1].—MEXICO, Jalapa (*Höge*), State of Vera Cruz (*Schaus*) [2]; GUATEMALA, Las Mercedes (*Champion*).—CUBA [1]; VENEZUELA.

This species is closely allied to the preceding, but clearly distinct.

3. **Halisidota atra,** sp. n. (Tab. IX. fig. 26.)

Primaries sooty black, with the markings closely resembling those of *H. cinctipes*, but wanting the marginal black line of spots; secondaries uniform brownish black: head, thorax, and abdomen brownish black; antennæ black; the underside of the thorax yellowish. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Las Mercedes (*Champion*).

Of this species I have three specimens before me; they seem to vary to some extent in the bands and spots of the primaries. The female is rather larger than the male, and much lighter in colour.

4. **Halisidota caryæ.**

Halisidota caryæ, Harris, Rep. Ins. Mass. p. 258 [1]; Walk. Cat. xxxv. p. 1909.
Halesidota annulifascia, Walk. Cat. iii. p. 734.
Halisidota porphyrea, Herr.-Schäff. Samml. aussereur. Schmett. f. 283; Walk. Cat. xxxi. p. 307.

Hab. NORTH AMERICA [1].—GUATEMALA, Capetillo (*Champion*).

A single female example of this insect was obtained.

5. **Halisidota albiguttata.** (Tab. IX. fig. 27.)

Phægoptera albiguttata, Boisd. Lép. Guat. p. 99[1].

Hab. Honduras[1].

The only specimen known to me of this little-known species is the type, now in the possession of Mons. C. Oberthür, to whom I am indebted for the pleasure of figuring it.

6. **Halisidota piperita.**

Halisidota piperita, Herr.-Schäff. Samml. aussereur. Schmett. f. 293[1].

Hab. Costa Rica, Irazu (*Rogers*).—Brazil[1].

A single specimen was obtained.

7. **Halisidota strigulosa.**

Halesidota strigulosa, Walk. Cat. iii. p. 737.

Halesidota citrina, Walk. Cat. xxxi. p. 314.

Hab. Guatemala, San Gerónimo (*Champion*); Panama, Volcan de Chiriqui 4000 to 6000 feet, Bugaba (*Champion*).—Colombia; Ecuador (*mus. D.*).

8. **Halisidota cadavessa.**

Halisidota cadavessa, Grote.

Hab. Mexico, Presidio, Mazatlan (*Forrer*); Panama, Bugaba (*Champion*), Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

Named from Mr. Grote's types now in the British Museum.

9. **Halisidota seruba.**

Halisidota seruba, Herr.-Schäff. Samml. aussereur. Schmett. f. 280.

Hab. Mexico, Jalapa (*Höge*), Presidio, Tres Marias Island (*Forrer*); Guatemala, Cerro Zunil, Dueñas, Volcan de Atitlan, Las Mercedes (*Champion*); Honduras, San Pedro (*Whitely, mus. D.*); Panama, Volcan de Chiriqui (*Ribbe, Champion*).

This species varies considerably in the darker markings of the primaries; in some specimens the markings are well defined, in others almost wanting.

10. **Halisidota secta.**

Halesidota secta, Walk. Cat. xxxi. p. 313[1].

Hab. Honduras, Limas[1].

This species is unknown to me.

11. **Halisidota bicolor.**

Halesidota bicolor, Walk. Cat. iii. p. 734[1].

Hab. Mexico[1].

12. **Halisidota armillata.**

Halisidota armillata, H. Edwards, Pap. iv. p. 76.

Hab. Mexico, State of Vera Cruz (*Schaus*).

13. **Halisidota propinqua.**

Halisidota propinqua, H. Edwards, Pap. iv. p. 76.

Hab. Mexico, State of Vera Cruz (*Schaus*).

EUHALISIDOTA.

Euhalisidota, Grote, Proc. Ent. Soc. Phil. v. p. 243.

This genus was founded for the reception of *Euhalisidota luxa*, Grote, from Cuba.

1. **Euhalisidota cervina.**

Euhalisidota cervina, H. Edwards, Pap. iv. p. 77.

Hab. Mexico, State of Vera Cruz (*Schaus*).

This species is unknown to me.

SYCHESIA.

Sychesia, Möschler, Verh. k.-k. zool.-bot. Ges. Wien, xxvii. p. 653 (1877).

1. **Sychesia fimbria.**

Sychesia fimbria, Möschler, Verh. k.-k. zool.-bot. Ges. Wien, xxvii. p. 653, t. 9. f. 22 (1877)[1].

Phægoptera subtilis, Butl. Trans. Ent. Soc. 1878, p. 51[2].

Hab. Guatemala, Cerro Zunil, Volcan de Atitlan (*Champion*); Costa Rica, Irazu (*Rogers*).—Ecuador (*mus. D.*); Guiana, Surinam[1]; Amazons[2].

2. **Sychesia breviuscula.**

Halesidota breviuscula, Walk. Cat. xxxi. p. 311[1].

Euhalisidota aperta, H. Edwards, Pap. iv. p. 77[2].

Hab. Mexico[1], Jalapa (*Höge*), State of Vera Cruz[2] (*Schaus*); Guatemala, Volcan de Atitlan, Pantaleon, Panajachel, Cerro Zunil, Las Mercedes (*Champion*); Panama, Volcan de Chiriqui, Bugaba (*Champion*).

This species appears to be common in Guatemala. I have no doubt that the insect lately described by Mr. H. Edwards under the name of *Euhalisidota aperta* belongs to this species. This insect is closely allied to *S. fimbria*, Möschler; it can easily be separated from *Phægoptera* by its much shorter primaries.

PHÆGOPTERA.

Phægoptera, Herr.-Schäff. Samml. aussereur. Schmett. figg. 58–68, 283–294.

1. **Phægoptera mansueta.** (Tab. X. fig. 1.)

Halisidota mansueta, H. Edwards, Pap. iv. p. 75.

Hab. Mexico, State of Vera Cruz (*Schaus*), Milpas 5000 feet (*Forrer*).

The insect figured I believe to be the species lately described by Mr. H. Edwards; it agrees well with his description. *P. mansueta* is very closely allied to *H. edwardsii*, Packard (*H. translucida*, Walker), if, indeed, it is distinct; but the type of Walker's species is in poor condition, and therefore I do not feel certain upon this point.

2. **Phægoptera ochraceator.**

Halesidota ochraceator, Walk. Cat. xxxi. p. 310[1].

Hab. MEXICO[1]; GUATEMALA, Panima, Cerro Zunil (*Champion*).

This species is very nearly allied to the following.

3. **Phægoptera aconia.**

Phægoptera aconia, Herr.-Schäff. Samml. aussereur. Schmett. fig. 64[1].

Halesidota aconia, Walk. Cat. iii. p. 744.

Hab. COSTA RICA (*Van Patten*).—VENEZUELA[1].

Two specimens of this insect were received in Van Patten's last collection; they agree with Herrich-Schäffer's figure in all respects.

4. **Phægoptera suffusa.**

Phægoptera suffusa, Herr.-Schäff. Samml. aussereur. Schmett. f. 67.

Halesidota suffusa, Walk. Cat. iii. p. 745.

Hab. COSTA RICA, Irazu (*Rogers*).

5. **Phægoptera cornea.**

Phægoptera cornea, Herr.-Schäff. Samml. aussereur. Schmett. figg. 61, 62[1].

Halesidota cornea, Walk. Cat. iii. p. 745.

Hab. MEXICO, Jalapa (*Höge*).—VENEZUELA[1].

A single example of this species was received; it is the only specimen I have seen as yet from Central America.

6. **Phægoptera alba**, sp. n. (Tab. X. fig. 9.)

Primaries and secondaries uniform semihyaline white, with the costal and inner margin of the primaries very pale yellow: head, thorax, and upper half of the abdomen white, the anal half of the abdomen brown, with a central band of white spots; antennæ and fore legs yellowish brown. Expanse $2\frac{1}{2}$ inches.

Hab. MEXICO (*mus. Staudinger*).

This species is very distinct from any other known to me.

7. **Phægoptera superba**, sp. n. (Tab. X. fig. 2.)

Primaries pale pinkish brown, crossed by five irregular darker brown bands from the costal to the inner margin, the band nearest the apex is the widest, and crosses from the costal margin to the middle of the outer margin, a large black spot at the base; secondaries very pale pinkish brown, almost hyaline from the middle to the base; head, thorax, and the basal part of the abdomen pale brown; the abdomen black, banded with bright carmine; antennæ, front of head, and palpi black; fore tibiæ carmine within, the rest of the legs black; the underside of the abdomen pale brown. Expanse $3\frac{1}{4}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Only a single example of this very fine insect was sent; it is quite unlike any other species known to me.

ECPANTHERIA.

Ecpantheria, Hübner, Verz. bek. Schmett. p. 183; Clemens, Proc. Acad. Phil. xii. p. 523.

The species of this genus are extremely variable; in fact it is difficult to find two specimens exactly alike. In some examples before me the spots on the primaries are quite different on one side from what they are on the other. M. Oberthür has named a large number of specimens as distinct, which, without doubt, belong to one species; and also many others that have already been described by Cramer and Walker, whose descriptions appeared to be unknown to him; and some he has omitted to put into his list altogether.

1. Ecpantheria eridane.

Ecpantheria eridane, Hübn. Verz. bek. Schmett. p. 183; Oberthür, Etudes d'Entomologie, vi. p. 105, t. 12. f. 2, 3.

Hypercompa eridane, Hübn. Samml. exot. Schmett. f. 1–4.

Ecpantheria muzina, Oberthür, loc. cit. f. 4.

Ecpantheria abscondens, Oberthür, loc. cit. p. 106, t. 12. f. 7.

Ecpantheria garzoni, Oberthür, loc. cit. p. 107, t. 13. f. 3.

Ecpantheria yukatanensis, Oberthür, loc. cit. p. 107, t. 13. f. 4.

Ecpantheria alpha, Oberthür, loc. cit. p. 108, t. 14. f. 2.

Ecpantheria icasia?, Cram. Pap. Exot. ii. t. 181. f. E.

Ecpantheria cunigunda, Walk. Cat. iii. p. 694; Clemens, Proc. Acad. Phil. xii. p. 525.

Hab. Mexico, Valladolid in Yucatan (*Gaumer*); Honduras (*Dyson, mus. B.*); Guatemala, Coban (*Champion*); British Honduras (*Blancaneaux*); Honduras; Nicaragua, Chontales (*Belt*); Costa Rica, Irazu, Cache (*Rogers*); Panama, Volcan de Chiriqui (*Ribbe*).—Colombia; Brazil.

The specimen named by Walker as *E. cunigunda*, Cram., from Honduras, is identical with this species. I have only dealt with M. Oberthür's species so far as those from Central America are concerned, and of which I have specimens before me agreeing well with his figures. I cannot see the slightest reason for separating them; neither can I find any characters of specific value whereby to distinguish one from the other. I believe *E. albicollis*, *E. thiemei*, and *E. depauperata* of Oberthür also belong to this species; and I think that it is most likely when we receive specimens from Surinam they will prove to be the same, and that Hübner's name will have to give place to that of Cramer. Cramer's figure being a very bad one, I have little doubt that such will prove to be the case; but without further material I cannot determine this point with absolute certainty.

2. Ecpantheria caudata.

Ecpantheria caudata, Walk. Cat. iii. p. 689[1]; Clemens, Proc. Acad. Phil. xii. p. 523.

Ecpantheria mexicana, Oberthür, Etudes d'Entomologie, vi. p. 109, t. 15. f. 1, 3[2].

Hab. Mexico[1 2].

The type specimens in the British Museum agree well with M. C. Oberthür's figures.

3. **Ecpantheria trebula,** sp. n. (Tab. X. fig. 3.)

Primaries creamy white, crossed from the costal to the inner margin by four bands of irregular greenish-brown spots, the first close to the base, the second very small, almost dots, the third about the middle much wider, the fourth nearer the outer margin much broken, widest at the apex and anal angle; secondaries pale yellow, darkest on the inner margin, with a black spot at the anal angle, which is much elongated: head and thorax white, spotted with black; abdomen yellow, with a central row of black spots extending from the base to the anus; antennæ black. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Las Mercedes (*Champion*).

This may be the species described by Mr. H. Edwards; but the plate having been drawn, and the description not agreeing well with my specimens, I have ventured to name it.

4. **Ecpantheria decora.** (Tab. X. fig. 6.)

Ecpantheria decora, Walk. Cat. iii. p. 693[1]; Clemens, Proc. Acad. Phil. xii. p. 525.

Ecpantheria haïtensis, Oberthür, Etudes d'Entomologie, vi. p. 109, t. 15. f. 5, 7.

Hab. MEXICO, Jalapa (*Höge*).—SANTO DOMINGO[1].

The Mexican example agrees well with Walker's type in the British Museum. I have not the slightest doubt that the Haitian insect named by M. Oberthür is the same species.

5. **Ecpantheria leucarctioides.**

Ecpantheria leucarctioides, Grote & Robinson.

Ecpantheria tenella, H. Edwards, Papilio, iv. p. 15. 41.

Hab. MEXICO, State of Vera Cruz (*Schaus*).

6. **Ecpantheria extrema.**

Ecpantheria extrema, Walk. Cat. iii. p. 691[1]; Clemens, Proc. Acad. Phil. xii. p. 524.

Ecpantheria chilensis, Oberthür, Etudes d'Entomologie, vi. p. 111, t. 20. f. 5[2].

Hab. MEXICO (*Becker, mus. B.*)[1], Oaxaca (*ex coll. Sommer in mus. Staudinger*); COSTA RICA, Irazu 6000 to 7000 feet, Rio Sucio, San Francisco 4500 feet (*Rogers*).—CHILI ?[2].

I feel certain that the locality given by M. Oberthür is not correct. I have never seen a specimen of this species from any locality south of Costa Rica; the genus, being a tropical one, so far as I am at present aware, does not occur in Chili.

7. **Ecpantheria cotyora,** sp. n. (Tab. X. figg. 4 ♂, 5 ♀.)

Male. Primaries creamy white, thickly covered with greenish-black bands and spots, better defined by the figure than by description; secondaries whitish hyaline, with the inner margin clothed with yellow hairs: head and front of the thorax creamy white; thorax and abdomen black, shot with blue in some lights, a wide orange-coloured band on each side of the abdomen, the underside of which is white with a central black band, bordered on either side with a row of small black dots; antennæ and palpi blue-black.

Female. The primaries are the same as in the male, but much larger and with all the dark markings broader; secondaries brownish black, the outer margin rather widely bordered with cream-colour, in some specimens

a few indistinct spots cross the wings from the apex to near the anal angle, in others they are entirely wanting. Expanse, ♂ 2 inches, ♀ $2\frac{3}{4}$ inches.

Hab. COSTA RICA, Irazu, Rio Sucio (*Rogers*).

This species seems to be most nearly allied to *E. læta*, but I think quite distinct. I have several specimens of both sexes before me, and they do not show much variation, excepting in the markings of the secondaries of the female.

8. Ecpantheria ochreator.

Ecpantheria ochreator, Feld. Reise Nov. Lep. iv. t. 101. f. 2.

Hab. CENTRAL AMERICA (*Salvin, mus. Felder*).

This species is only known to me from Dr. Felder's figure.

9. Ecpantheria atra.

Ecpantheria atra, Oberthür, Etudes d'Entomologie, vi. p. 109, t. 15. f. 4[1].

Hab. MEXICO, Oaxaca[1].

This insect is quite unknown to me excepting by the figure. I very much doubt if it belongs to this genus.

ARACHNIS.

Arachnis, Hübn. Samml. exot. Schmett. f. 913, 914; Clems. Proc. Acad. Nat. Sci. Phil. xii. p. 525.

1. Arachnis aulæa.

Arachnis aulæa, Hübn. loc. cit.; Walk. Cat. xxxi. p. 300[1]; Clemens, loc. cit. p. 526.

Ecpantheria aulæa, Oberthür, Etudes d'Entomologie, vi. p. 111, t. 19. f. 4, 7[2].

Ecpantheria incarnata, Walk. Cat. iii. p. 690[3]; Clemens, Proc. Acad. Phil. xii. p. 524.

Hab. MEXICO[1 2 3], Jalapa (*Höge*); BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*).

This species varies to some extent in the markings of the secondaries; in some specimens they are almost black, the red bands being reduced to minute red spots.

2. Arachnis picta.

Arachnis picta, Packard, Proc. Ent. Soc. Phil. iv. p. 126[1]; Walk. Cat. xxxv. p. 1912.

Ecpantheria picta, Oberthür, Etudes d'Entomologie, vi. p. 112, t. 19. f. 5, 8.

Hab. NORTH AMERICA, California[1].—MEXICO, Milpas 5900 feet (*Forrer*).

The single example of what I believe to be this species is rather darker in colour than M. Oberthür's figure, but the markings agree fairly well; in all other respects it is the same.

3. Arachnis sanguinea.

Ecpantheria sanguinea, Oberthür, Etudes d'Entomologie, vi. p. 112, t. 20. f. 1, 2[1].

Hab. MEXICO[1], near the city (*Höge*).

A single example of this fine insect was received.

4. **Arachnis confusa,** sp. n.

Primaries and secondaries creamy white, the primaries crossed from the costal to the internal margin with very irregular bands of drab narrowly margined with black on both sides; the secondaries with a marginal row of very small spots near the apex and a submarginal band of larger spots from the apex to the anal angle; underside with the darker markings as above and with the costal margin and the base of both primaries and secondaries pale yellow: head and thorax white; abdomen yellow on the upperside and dirty white beneath, with a row of very minute black spots on each side; antennæ white, with black tips. Expanse 2 inches.

Hab. Mexico, Jalapa (*Höge*).

Only a single example of this very distinct species was obtained; it is nearest to *A. picta*, but differs from all the species of the genus with which I am acquainted in being white instead of brown and red.

CARALES.

Carales, Walker, Cat. iii. p. 729.

Walker includes four species in this genus.

1. **Carales astur.**

Phalæna astur, Cram. Pap. Exot. ii. t. 120. f. B [1].
Carales albicans, Walk. Cat. iii. p. 730 [2].

Hab. Mexico, Cordova (*Rümeli*), Jalapa (*Höge*); Guatemala, San Gerónimo (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet, Bugaba (*Champion*).—Venezuela [2]; Guiana, Surinam [1].

Cramer's figure of this species was overlooked by Walker, who has not included it in his 'Catalogue;' he redescribed it as *C. albicans*. I have not the slightest doubt of their being identical.

2. **Carales obscurata,** sp. n. (Tab. X. fig. 7.)

Primaries pale drab brown, thickly speckled with minute ochreous scales, the nerves all dark brown; secondaries uniform semihyaline pale brown, with a few yellowish scales at the apex and along the outer margin: head and thorax greyish brown with black markings; abdomen yellow, with a central row of spots and one on either side black; palpi black; antennæ blackish brown, slightly yellow close to the base. Expanse $2\frac{1}{2}$ inches.

Hab. Mexico, Jalapa (*Höge*); Costa Rica, Irazu (*Rogers*).

This species is allied to *C. phryganoides*, but quite distinct. The Mexican example is smaller than the one from Costa Rica, from which the figure is taken; it also differs slightly in having several indistinct black spots at the end of the cell of the primaries; in other respects it is identical.

PELOCHYTA.

Pelochyta, Hübner, Verz. bek. Schmett. p. 171.

This genus is represented by a single species in our country.

1. **Pelochyta specularis.**

Trichromia specularis, Herr.-Schäff. Samml. aussereur. Schmett. f. 59[1].

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, Pantaleon 1700 feet, Cerro Zunil 4000 feet, Las Mercedes 3000 feet (*Champion*); COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 6000 feet (*Champion, Ribbe*).—VENEZUELA[1]; ECUADOR (*Buckley, mus. D.*); SOUTH-EAST BRAZIL (*mus. D.*).

This species is found over a very extended range of country. It does not vary to any extent; the figure given by Herrich-Schäffer is much too highly coloured.

PURIUS.

Purius, Walker, Cat. iii. p. 719.

Walker founded this genus for the reception of a Venezuelan insect.

1. **Purius sordidus.**

Purius sordidus, Walk. Cat. iii. p. 719[1].

Hab. COSTA RICA (*Gabb, mus. D.*); PANAMA, Volcan de Chiriqui (*Ribbé, mus. Staudinger*).—VENEZUELA[1]; AMAZONS[1], Para.

2. **Purius punctatus,** sp. n.

Primaries pale yellowish brown, with several rows of indistinct spots near the apex, and extending along the outer margin; secondaries dirty white, the margins pale yellow: head, thorax, and abdomen pale brownish yellow; antennæ brown, rather deeply pectinated. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Las Mercedes (*Champion*).

The two examples of this species are in rather poor condition, being considerably stained with grease.

PSEUDAPISTOSIA.

Pseudapistosia, Möschler, Verh. k.-k. zool.-bot. Ges. Wien, 1877, p. 665.

1. **Pseudapistosia umber.**

Phalæna umber, Cram. Pap. Exot. i. t. 15. f. F[1].

Apistosia umber, Hübn. Verz. bek. Schmett. p. 164; Walk. Cat. ii. p. 479[2].

Pseudapistosia umber, Möschler, Verh. k.-k. zool.-bot. Ges. Wien, 1877, p. 666[3].

Hab. PANAMA, Volcan de Chiriqui (*Champion*).—GUIANA, Surinam[1 2], Paramaribo[3].

The specimens from Panama agree well with Cramer's figure.

2. **Pseudapistosia cinerea.**

Halesidota cinerea, Walk. Cat. iii. p. 741[1].

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, Cerro Zunil, San Gerónimo (*Champion*).—VENEZUELA[1]; BRAZIL[1].

The specimen from Mexico differs from the others in being considerably darker in colour, but in other respects it is identical.

3. **Pseudapistosia lystra,** sp. n.

Primaries and secondaries pale brown, with a purple tinge, the veins all darker brown; a yellow spot, and three very minute black dots, at the base of the primaries: head and front of thorax yellow, with small black dots; thorax and base of abdomen brown; abdomen yellow, banded with black; antennæ brown; palpi yellow, the tips black; legs pale yellowish brown. Expanse $2\frac{1}{4}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

This species is nearly allied to *P. cinerea*, from which it can easily be distinguished by its much darker colour. I believe there are two or three specimens of this species in the British Museum from Colombia.

4. **Pseudapistosia degenera.**

Halesidota degenera, Walk. Cat. iii. p. 742[1].

Hab. GUATEMALA, Torola (*Champion*); PANAMA, Bugaba (*Champion*), Volcan de Chiriqui (*Ribbe, mus. Staudinger*).—VENEZUELA[1].

The examples from our country agree well with Walker's type in the British Museum.

PSYCHOPHASMA.

Psychophasma, Butler, Trans. Ent. Soc. 1878, p. 51.

Mr. Butler founded this genus for the reception of *Halesidota albidator*, Walker (*H. erosa*, Herr.-Schäff.). Herrich-Schäffer figured it some years before the publication of Walker's description.

1. **Psychophasma erosa.**

Halesidota erosa, Herr.-Schäff. Samml. aussereur. Schmett. t. 96. f. 550.

Halesidota albidator, Walk. Cat. xxxi. p. 313[1].

Psychophasma albidator, Butl. Trans. Ent. Soc. 1878, p. 52[2].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe*).—AMAZONS[1 2]; ECUADOR (*Buckley, mus. D.*).

The only evidence of the occurrence of this species in our country is the specimen obtained some years ago by Herr Ribbe. In Ecuador it is a rather common insect, and Mr. Buckley sent me a fine series of specimens from that country.

OPHARUS.

Opharus, Walker, Cat. iii. p. 728.

This genus was founded by Walker for the reception of a Brazilian insect, which I have now received from Guatemala.

1. **Opharus procroides.**

Opharus procroides, Walk. Cat. iii. p. 729[1].

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*).—BRAZIL[1].

The specimens before me agree well with Walker's type in the British Museum.

2. **Opharus albipunctatus,** sp. n. (Tab. X. fig. 11.)

Primaries uniform pale drab brown; secondaries whitish hyaline, with the outer and inner margins bordered with the same colour as the primaries; a very minute blue spot at the base of the primaries: head, palpi, antennæ, and thorax black; the collar spotted with bright blue spots; the patagia yellowish white, with a minute bright blue spot at the extreme point; abdomen yellow, banded with black, also a narrow central black line from the anus to the base, where the abdomen is dusky brown; the underside brown; legs black. Expanse $1\frac{3}{4}$ inch.

Hab. British Honduras, Belize (*Blancaneaux*); Guatemala, Panzos, Las Mercedes 3000 feet (*Champion*).

This pretty species is very distinct from any other with which I am acquainted.

3. **Opharus mundator,** sp. n. (Tab. X. fig. 10.)

Primaries uniform semitransparent black; the secondaries similar, but slightly whitish near the base: head, palpi, and antennæ black; thorax black, with two white spots in front, just behind the head; abdomen black, banded with yellowish lines on each segment; a row of white spots on each side; legs black. Expanse $2\frac{1}{2}$ inches.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

Only a single example of this species was sent.

4. **Opharus ruficollis,** sp. n. (Tab. X. fig. 8.)

Primaries uniform pale brown, with an indistinct broken darker brown band from the costal margin near the apex to close to the anal angle, the veins all darker; secondaries pale brown, pinkish yellow from the base to beyond the middle: head and front of thorax bright orange-red, with several very minute black spots; thorax brown; abdomen pinkish yellow, spotted with black on the sides; legs brown. Expanse 2 inches.

Hab. Panama, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

I have only seen a single example of this insect.

ANAXITA.

Anaxita, Walker, Cat. iii. p. 748.

Two species have been placed in this genus.

1. **Anaxita decorata.**

Anaxita decorata, Walk. Cat. iii. p. 748[1]; Herr.-Schäff. Samml. aussereur. Schmett. f. 528.

Hab. Mexico (*Hartweg*)[1].

The only specimens of this very fine species known to me are in the British Museum; it is well figured by Herrich-Schäffer.

Subfam. *PERICOPIINÆ.*

ESTHEMA.

Esthema, Hübner, Verz. bek. Schmett. p. 178.

This genus is represented in our country by three species, two of them being common South-American forms.

1. **Esthema bicolora.**

Phalæna bicolora, Sulz. Ins. p. 161, t. 22. f. 6; Cram. Pap. Exot. ii. t. 143. f. A.

Esthema bicolora, Walk. Cat. ii. p. 338[1]; Butl. Trans. Ent. Soc. 1872, p. 52; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 172.

Hypocrita dichroa, Hübn. Samml. exot. Schmett. i. t. 187.

Hab. Costa Rica (*Van Patten, mus. D.*).—Amazons[1]; East Peru (*mus. D.*).

This species appears to be very rare in Central America. I have only seen the single specimen sent some years ago in Dr. Van Patten's first Costa-Rican collection.

2. **Esthema aletta.**

Phalæna aletta, Cram. Pap. Exot. iv. t. 396. f. C.

Esthema aletta, Walk. Cat. ii. p. 338; Butl. Trans. Ent. Soc. 1872, p. 52; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 173.

Hab. Guatemala (*Boucard, mus. D.*); Panama, Veraguas (*Arcé, mus. D.*), Volcan de Chiriqui (*Ribbe and Arcé, mus. D.*), Bugaba 800 to 1500 feet (*Champion*).—Colombia (*mus. D.*); Guiana, Surinam[1]; Ecuador (*mus. D.*).

This species is very common at Bugaba. Mr. Champion obtained a very fine series.

3. **Esthema euplœoides.** (Tab. X. fig. 12.)

Esthema euplœodes, Butl. Ann. & Mag. Nat. Hist. 4th ser. viii. p. 285[1]; Trans. Ent. Soc. 1872, p. 52; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 173.

Hab. Costa Rica (*Van Patten, mus. D.*); Panama (*Salvin, mus. Oxford*).—Colombia[1].

This species is allied to *E. aletta,* from which it is readily distinguished by the different position of the band of white spots on the primaries, and by the white streaks of the secondaries extending to the outer margin. It seems to be a scarce insect. Mr. Champion did not meet with it. I have seen five examples, all constant in their differences from *E. aletta.*

EUCYANE.

Eucyane, Hübner, Verz. bek. Schmett. p. 177.

This genus is exceedingly well represented in Central America; the species are all large and very finely coloured, but none of them are common insects.

1. **Eucyane pylotes.**

Phalæna pylotes, Drury, Ill. Exot. Ent. ii. t. 5. f. 3[1].

Callimorpha? pylotes, Westw. ed. Drury, ii. t. 5. f. 3.

Eucyane pylotes, Walk. Cat. ii. p. 362[2]; Butl. Trans. Ent. Soc. 1872, p. 53[2]; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 173.

Calepidos celina, Boisd. Lép. Guat. p. 89[3].

Hab. Mexico[2] (*Argent, mus. B.*); Guatemala[3], Cubilguitz (*Champion*); Honduras[1].

Only a single example was obtained. I have compared the type of Boisduval's

Calepidos celina, and find without doubt that it is Drury's species, the only difference being that the white band of the primaries is a little narrower.

2. **Eucyane anacharsis.** (Tab. X. fig. 18.)

Calepidos anacharsis, Boisd. Lép. Guat. p. 89[1]; Butl. Trans. Ent. Soc. 1872, p. 255; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 173.

Hab. NICARAGUA[1].

I am indebted to Mons. C. Oberthür for the pleasure of figuring this fine species; it is not unlike *Esthema herrona*, Butler, but the band and row of spots are differently placed. The type is the only specimen known to me. It is certainly distinct from *E. celadon*, Cramer, with which Mr. Butler places it with a query.

3. **Eucyane ninonia,** sp. n. (Tab. X. fig. 13.)

Primaries dark brownish black, with the veins all black, a semihyaline white band crossing the wing from the costal margin to near the anal angle, where it almost tapers to a point, the costal margin reddish close to the base; secondaries dark glossy blue, the inner and outer margin black without much gloss; a row of five semihyaline white spots nearest the apex: head and thorax dark brown, the collar red; antennæ and palpi black; abdomen dark glossy blue on the upperside; underside black, banded with white. Expanse 2 inches.

Hab. PANAMA, Volcan de Chiriqui (*mus. Staudinger*).

This pretty species is allied to *E. anacharsis*. I have only seen the specimen in Dr. Staudinger's collection.

4. **Eucyane excellens.** (Tab. X. figg. 16, 17.)

Eucyane excellens, Walk. Cat. ii. p. 362[1]; Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 173.

Hab. GUATEMALA, Zapote (*Champion*); COSTA RICA (*Van Patten*). — VENEZUELA (*Dyson*)[1].

This fine species appears to be very rare. Mr. Champion only obtained a single example; this and two others taken by Dr. Van Patten are the only specimens I have seen from our country.

5. **Eucyane arcæi,** sp. n. (Tab. X. fig. 14.)

Primaries rich dark brown, the base shot with bright metallic green; a wide chrome-yellow band crossing the wing from about the middle of the costal margin to the anal angle, the fringe white at the apex; secondaries brownish black, with the inner half from the base to near the anal angle brilliant morpho-blue; a bright carmine spot on the costal margin nearest the apex; the fringe white at the apex and anal angle: head, thorax, and abdomen dark bluish black; tegulæ and three central spots on the abdomen black; antennæ and palpi black; the legs black, banded with white; the underside of the abdomen bright scarlet, banded with black, edged with white. Expanse $2\frac{1}{4}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Arcé, mus. D.*).

I received a single example of this species some years ago, the only one that I have seen; its nearest ally appears to be *E. glauce* from Para.

6. **Eucyane phœnicides,** sp. n. (Tab. X. fig. 15.)

Primaries deep black, crossed transversely near the apex by a narrow, bright carmine band, not quite reaching the costal margin; secondaries dark glossy blue, with the outer margins bordered with rich carmine: head and sides of the thorax bright red; thorax and abdomen bright bluish black; antennæ black; palpi red, with the first joint black; a spot at the base on the underside of the primaries also the underside of the thorax white; legs bluish black. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Coban (*mus. Staudinger*).

This beautiful species is allied to *E. amica*, from which it is easily distinguished by the dark blue secondaries and narrow carmine band of the primaries.

COMPOSIA.

Composia, Hübner, Verz. bek. Schmett. p. 179.

This genus is represented by two species in our country.

1. **Composia olympia.** (Tab. XI. fig. 1.)

Phaloësia olympia, Butl. Ann. & Mag. Nat. Hist. 4th ser. viii. p. 290[1]; Trans. Ent. Soc. 1872, p. 54.

Composia olympia, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 172.

Hab. BRITISH HONDURAS, Corrosal (*J. Roe, mus. D.*).—BRAZIL[1].

This beautiful species is allied to *C. sybaris* from Jamaica. I have only seen two examples from our country. I think it very doubtful if it occurs in South America.

2. **Composia subcyanea.**

Euchromia subcyanea, Walk. Cat. i. p. 230[1].

Hab. MEXICO[1].

I have not seen a specimen of this species from our country; I possess one from the island of Dominica.

PHALOËSIA.

Phaloësia, Walker, Cat. ii. p. 359.

This genus contains a single species only.

1. **Phaloësia saucia.** (Tab. XI. fig. 2.)

Phaloësia saucia, Walk. Cat. ii. p. 359[1]; Butl. Trans. Ent. Soc. 1872, p. 54[2].

Cocastra gentilis, Boisd. Lép. Guat. p. 88.

Phaloësia flavicollis, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 171[3].

Phaloësia venezuelæ, Butl. ib.[4]

Phaloësia chalybea, Butl. ib.[5]

Hab. MEXICO[5], Valladolid in Yucatan (*Gaumer*); GUATEMALA, San Gerónimo (*Champion*); NICARAGUA[1 2].—VENEZUELA[3 4].

I cannot see the slightest reason for separating from *P. saucia* the specimens placed under the above names in the British Museum; they are, without doubt, all the same species, and I cannot detect any difference that would even allow of their ranking as

slight varieties. In this view Mr. Butler now agrees with me. A Guatemala example is figured.

ACRIBIA.

Acribia, Felder, Reise Nov. Lep. iv. p. 1, t. ciii. f. 14.

This genus is very close to *Phaloësia*, but I think distinct, on account of the shorter and broader wings of the female.

1. **Acribia melanchroia.**

Acribia melanchroia, Feld. Reise Nov. Lep. iv. t. ciii. f. 14[1].

Phaloësia melanchroia, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 171.

Hab. Mexico (*Bilimek*)[1]; Guatemala, El Jicaro, Cubilguitz (*Champion*).

The male of this species is quite unknown to me.

2. **Acribia maculifrons.** (Tab. XI. fig. 3.)

Stenele maculifrons, Walk. Cat. xxxi. p. 157[1].

Hab. Guatemala, San Gerónimo (*Champion*); Honduras, Limas[1]; Costa Rica, Irazu (*Rogers*).

The example from Costa Rica is much faded; I believe it to be a female. In neuration it agrees well with *A. melanchroia.*

HYALURGA.

Hyalurga, Hübner, Verz. bek. Schmett. p. 174.

1. **Hyalurga fenestra.**

Hyalurga fenestra, Clerck, Icones, t. 55. f. 41; Linn. Mus. Lud. Ulr. p. 372; Walk. Cat. ii. p. 340[1]; Butl. Trans. Ent. Soc. 1872, p. 54; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 175[2].

Hyalurga fenestrigera, Hübn. Verz. bek. Schmett. p. 174.

Sphinx egeon, Cram. Pap. Exot. i. t. 59. f. B[3].

Hab. Panama, Bugaba 800 to 1500 feet (*Champion*).—Venezuela[1 2]; Guiana, Surinam[1 3]; East Peru (*Whitely, mus. D.*).

The only specimen of this insect I have seen from our country is the one obtained by Mr. Champion. In South America it is common, and generally distributed over a wide range of country. The specimens before me vary very considerably in the amount of the orange-coloured margins to the wings; and I feel pretty certain that several closely allied forms recently described will, upon sufficient material being obtained, prove to be nothing but very slight varieties of this insect.

2. **Hyalurga uria.**

Hyalurga uria, Butl. Ann. & Mag. Nat. Hist. 4th ser. viii. p. 286[1]; Trans. Ent. Soc. 1872, p. 54; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 176.

Hab. Panama, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).—Amazons, Ucayali[1].

A single example of this insect was sent; it agrees well with Mr. Butler's type, the only difference being that the black band of the primaries is slightly narrower. This species is very close to *H. fenestra*.

COBORISA.

Coborisa, Walker, Cat. iv. p. 915.

1. **Coborisa fenestrata.**

Coborisa fenestrata, Walk. Cat. iv. p. 915 [1].

Hab. MEXICO [1].

PHALOË.

Phaloë, Guérin, Voy. Duperrey, Zool. ii. p. 283.

1. **Phaloë lorzæ.**

Phaloë lorzæ, Boisd. Lép. Guat. p. 90 [1]; Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 170 [2].

Hab. GUATEMALA [1].—VENEZUELA [2]; TRINIDAD (*mus. D.*).

The only authority I have for including this species in our fauna is Boisduval's; it therefore requires confirmation.

2. **Phaloë gaumeri**, sp. n. (Tab. XI. figg. 4, 5.)

Male. Primaries black, with a small spot at the base, two on the costal margin, and one in middle of the cell, bright carmine; a triangular patch extending from the base along the inner margin to near the middle and a wide central band from the costal margin to near the apex bright citron-yellow, beyond which nearer the apex are two hyaline bands, the first broken into spots extending to the anal angles; secondaries bright citron-yellow, with the apex and outer margin broadly banded with black; a yellow spot at the apex and several minute spots on the outer margin near the anal angle: head and thorax black, thickly spotted with white and yellow dots, a yellowish band crosses the thorax near the base; abdomen dusky yellow, the last segment and the anus black; legs black and white; antennæ black, slightly pectinated; palpi white, with the second joint black. The female differs from the male in its larger size, and by having all the yellow markings of the male creamy white, also in having a well-defined marginal row of whitish hyaline spots on the secondaries; the undersides of both male and female are the same as above. Expanse, ♂ $2\frac{1}{2}$, ♀ $2\frac{3}{4}$ inches.

Hab. MEXICO, Valladolid in Yucatan (*Gaumer*).

Of this very beautiful species I have received two males and one female; its nearest ally is *P. cruenta*.

3. **Phaloë verania**, sp. n. (Tab. XI. fig. 7.)

Male. Primaries deep black, a carmine spot on the costal margin, close to the base, a narrow semihyaline yellow band crosses from the middle of the costal margin to the inner margin near the apex; the band is almost white in the middle, beyond which near the apex is an elongated whitish spot crossed by a black nervule; secondaries black, with a yellowish-white transverse band of three spots crossing near the apex from the costal to the outer margin, two white dots close to the anal angle; the underside the same as above, except that the secondaries are streaked with bluish white from the base to nearly the middle: head and thorax black, thickly speckled with minute white spots; antennæ black, rather deeply pectinated; palpi black, white on the underside; abdomen black, banded with white; the anus, last segment, and the sides bright carmine on the underside, the white bands are much wider, and the last four segments are banded with carmine;

the legs black above, white beneath. The female the same as the male, but slightly larger in size; the antennæ are not pectinated. Expanse, ♂ $2\frac{1}{4}$, ♀ $2\frac{1}{2}$ inches.

Hab. GUATEMALA, Zapote (*Champion*).

Of this fine species Mr. Champion obtained but few examples; he only met with it in one locality.

4. **Phaloë schausi.**

Pericopis schausii, H. Edwards, Papilio, iv. p. 59[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*)[1].

From the description I believe this to be close to the preceding species. I have not seen a specimen.

5. **Phaloë helotes,** sp. n. (Tab. XI. fig. 8.)

Female. Primaries deep black, crossed about the middle from the costal margin to near the anal angle by a wide primrose-coloured band, a square-shaped spot the same colour close to the apex; secondaries deep black, with a band of three primrose-coloured spots near the apex extending from the costal margin across the wing to near the outer margin; the underside the same as above, only with one or two narrow yellow streaks at the base of the secondaries; head, thorax, and abdomen black; the anus and sides of the abdomen broadly banded with red; antennæ and palpi black; legs black, streaked with white. Expanse $2\frac{1}{4}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

This species is allied to *P. verania*, from which it is very distinct. I have only seen the example in Dr. Staudinger's collection.

6. **Phaloë trötschi,** sp. n. (Tab. XI. fig. 9.)

Female. Primaries deep black, crossed from the costal to the middle of the inner margin by a wide, deep yellow band, which is narrower in the middle; a bright yellow spot near the apex on the costal margin, a red streak from the base along the costal margin; secondaries brownish black, palest on the inner margin, a wide band of five yellow spots curved outwardly from the costal to the outer margin close to the apex; underside the same as above, with white and yellow streaks from the base of both wings: head, antennæ, and palpi black; thorax and abdomen black, with the sides and three last segments bright carmine; the underside of the abdomen black, banded with white; legs black on the upperside, white on the underside. Expanse $2\frac{1}{2}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

I have named this after Herr Trötsch, who has sent so many fine species to Dr. Staudinger. *P. trötschi* is closely allied to the preceding, but I think quite distinct; the yellow bands are differently placed.

7. **Phaloë cerealia,** sp. n. (Tab. XI. fig. 6.)

Primaries bright golden yellow, with the costal outer and inner margins broadly banded with black, a narrow black band crosses the basal area from the costal to the inner margin, a wide black band from the costal to the middle of the outer margin, a small red spot on the costal margin close to the base; secondaries bright golden yellow, with the veins all darker yellow, the apex and outer margin broadly banded with glossy bluish black; underside the same as above, excepting that the primaries are red on the costal margin close to the base: head, thorax, and upperside of the abdomen black, banded with yellow; the

sides of the abdomen deep yellow, the underside yellowish white; antennæ and palpi black, collar red; legs black on the upperside, yellowish white beneath. Expanse $2\frac{1}{4}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

I have only seen a single example of this beautiful species; it is quite unlike any other known to me.

PERICOPIS.

Pericopis, Hübner, Verz. bek. Schmett. p. 175.

1. **Pericopis jansoni.** (Tab. XI. fig. 10, ♂.)

Pericopis jansonis ♀, Butl. Lep. Exot. p. 46, t. xvii. figg. 4, 5; Trans. Ent. Soc. 1872, p. 56.

Thebrone jansonis, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 164.

Male. Primaries semitransparent, brownish black, with the lighter bands in the same position as in the female; secondaries white, the outer margin and apex broadly banded with black, a red spot at the anal angle, the veins black: head and thorax black, yellow in front; abdomen black, striped with greyish white, anus yellow; palpi and antennæ black. In some specimens of the male the secondaries are pale yellowish white, in every other respect they agree with what I consider to be the typical form.

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, Volcan de Chiriqui (♂, both forms ♀, *Arcé, mus. D.*; and *Ribbe, mus. Staudinger*), Bugaba (♂, both forms ♀, *Champion*).

It is quite possible that the yellow form may prove to be a distinct species, but for the present I think it better to place it as a variety of the male of *P. jansoni*, the only difference being the pale yellow colour of the secondaries. *Chetone arema*, Boisd., placed with this species with doubt by Mr. Butler, is a very distinct species, and nearest allied to *P. marginalis*, Walker, but quite different from any other known to me.

2. **Pericopis leucophæa.**

Pericopis leucophæa, Walk. Cat. ii. p. 352[1].

Aphisaon leucophæa, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 165.

Thebrone rubrimargo, Boisd. Lép. Guat. p. 86[2].

Aphisaon salvatoris, Boisd. loc. cit. p. 86[3]; Butler, Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 165.

Pericopis flora, Butl. Cist. Ent. i. p. 127; Lep. Exot. t. 61. f. 9[4].

Aphisaon flora, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 165.

Hab. MEXICO [1] [2], Cordova (*Höge*); BRITISH HONDURAS [2] [3], Corrosal (*J. Roe, mus. D.*); GUATEMALA [3] [4], El Tumbador 2500 feet, Zapote (*Champion*); NICARAGUA, Chontales (*Belt*).

After carefully comparing the types of the above-mentioned species with the series of specimens before me, I see no reason for retaining Boisduval's and Butler's species as distinct, the chief differences being the width of the marginal band of red spots on the secondaries of the females. In some specimens of the males the light-coloured markings of the primaries are much whiter than in others; in these points they vary to a considerable extent, in fact no two specimens are exactly alike.

3. **Pericopis cerialis,** sp. n. (Tab. XI. figg. 11, 12.)

Male. Primaries whitish brown, the apex and a triangular patch near the anal angle, a spot at the end of the cell, and a band crossing the middle from the costal margin to the inner margin all brown, the inner margin widely banded with brown from the base to near the apex, a bright-red spot at the base, the veins all dark brown, and a marginal row of small white spots; secondaries white, broadly bordered with black, the veins all black, a submarginal row of bright-red spots from near the apex to the anal angle, and a marginal row of small white spots: head black, the front and sides of thorax pale yellow; the thorax blackish brown; the abdomen black, banded with greyish blue; the anus and the underside of the abdomen yellow; antennæ black, with a white spot at the base; palpi black. Expanse ♂ $2\frac{1}{4}$ inches.

Female. Primaries brownish black, crossed beyond the middle by two bands of yellowish white, the first from the costal margin to the anal angle, the second from the costal margin near the apex to the middle of the outer margin; secondaries black, with a submarginal row of large red spots, and a marginal row of white dots: head, thorax, and abdomen brownish black; the anus dark yellow, the anal segments of the abdomen speckled with pale-yellow scales, a pale yellow band on each side; the underside black; antennæ black. Expanse ♀ $2\frac{1}{2}$ inches.

Hab. Panama, Volcan de Chiriqui 3000 to 4000 feet (*Champion*; ♀, *Ribbe, mus. Staudinger*).

This insect is allied to *P. leucophæa*; but is readily distinguished from that species by the white secondaries in the male and the bands across the primaries in the female. Mr. Champion did not meet with the female, although he obtained several males of this species. The only female example that I have seen is the one in Dr. Staudinger's collection.

4. **Pericopis lycaste.**

Euprepia lycaste, Klug, Neue Schmett. p. 6, t. iv. fig. 4[1].

Pericopis dissimulans, Walk. Cat. xxxi. p. 155[2]; Butl. Trans. Ent. Soc. 1872, p. 57; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 166.

Chetone iscariotes, Bois. Lép. Guat. p. 91[3].

Hab. Mexico, Jalapa (*Deppe*)[1]; Guatemala[3], Cahabon (*Champion*); Honduras[3]; Nicaragua, Chontales (*Belt*); Costa Rica, Irazu (*Rogers*); Panama, Volcan de Chiriqui (*Champion*).—Colombia, Bogota[2].

Klug's figure appears to have been unknown to Walker, who has not included it in his catalogue. I have examined both Walker's and Boisduval's types, and have no doubt but that they are this species.

5. **Pericopis marginalis.**

Daritis marginalis, Walk. Cat. iii. p. 618[1].

Pericopis marginalis, Butl. Trans. Ent. Soc. 1872, p. 57[2]; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 166.

Dorimena magdola, Boisd. Lép. Guat. p. 98[3].

Hab. Guatemala[3]; Costa Rica, Irazu (*Rogers*).—Venezuela[1 2].

I think it very doubtful whether this species occurs in Guatemala; the only authority for its being found there is Boisduval's.

6. **Pericopis lygdamis,** sp. n. (Tab. XI. fig. 17.)

Male. Primaries dark brown, crossed beyond the middle by a semitransparent brownish-white, straight, forked band, inclosing a large dark-brown spot at the end of the cell, a small red-and-yellow spot at the base; secondaries whitish hyaline, with the veins and abdominal margins dusky, a wide submarginal band of orange-red extending from the base along the costal margin to the apex, and from the apex to the anal angle, it is edged with a narrow black line, the outer margin black with a marginal row of white spots: head, thorax, antennæ, and palpi black, the thorax with two large yellow spots on each side; abdomen bright red, with a central black line from the base to the anus, also a black line on either side; the underside pale yellow. On the underside, both primaries and secondaries, all the markings are orange-red, excepting at the base of the primaries, where it is dark brown as above, the costal margin of both primaries and secondaries bright red at the base. Expanse 3 inches.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

This insect is allied to *P. lycaste*, in fact it may be the southern form of that species; but at present I have not sufficient material to decide that point, only having two specimens, one of which is in very poor condition.

7. **Pericopis leda,** sp. n. (Tab. XI. fig. 13.)

Primaries dark brown, but quite pale along the costal margin, the markings much the same as in *P. lygdamis*, but narrower and more distinct; secondaries white, with the veins all red, the submarginal and marginal bands of red and black much narrower, the spots bluish instead of white: head, antennæ, and palpi black; thorax black, with a row of yellow and white spots in front; abdomen black, with two rows of yellowish-white scales almost central; the anus bright red; on the underside the abdomen yellow. Expanse $2\frac{3}{4}$ inches.

Hab. Costa Rica, Irazu (*Rogers*).

8. **Pericopis tibesis,** sp. n. (Tab. XI. figg. 14, 15.)

Male. Primaries dark brown, with the lighter markings very indistinct; secondaries reddish hyaline, with a marginal band of orange-red, bordered with black on both sides, and a marginal row of white spots extending from the apex to near the anal angle: head, antennæ, and thorax dark brown, palpi black; abdomen red, the sides and a central line brownish black; underside pale yellow.

Female. Primaries dark brown, with a yellowish patch about the end of the cell; secondaries deep orange-red, broadly bordered with black; in other respects the female closely resembles the male, but it is a considerably larger insect. Expanse, ♂ $2\frac{1}{2}$ inches, ♀ $3\frac{1}{4}$ inches.

Hab. Mexico, Jalapa (*Höge*), Cordova (*Rümeli*); British Honduras, Rio Sarstoon (*Blancaneaux*); Guatemala, Cerro Zunil 4000 to 5000 feet, Las Mercedes (*Champion*); Costa Rica (*ex coll. Schenck in mus. Staudinger*).

This species varies to some extent in the colour, and also in the width of the black margins of the secondaries. The specimen from Costa Rica appears to me to be an old one considerably faded, the secondaries being very much whiter than in any other specimen before me. In Mexico and Guatemala this species seems to be pretty common A male and female from Las Mercedes are figured.

9. **Pericopis arema.** (Tab. XI. fig. 16.)

Thebrone arema, Boisd. Lép. Guat. p. 85 [1].

Pericopis arema, Butl. Trans. Ent. Soc. 1872, p. 57.

Hab. Nicaragua.—Venezuela [1].

I am indebted to M. C. Oberthür for sending me Boisduval's type; it is quite unlike any other species with which I am acquainted.

10. Pericopis thetis.

Euprepia thetis, Klug, Neue Schmett. p. 5, t. iv. figg. 1, 2[1].
Daritis thetis, Walk. Cat. iii. p. 618[2]; Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 170[3].
Pericopis thetis, Butl. Trans. Ent. Soc. 1872, p. 57.
Eucharia mariamne, Hübn. Samml. exot. Schmett. t. 999. figg. 1–4.

Hab. Mexico[2 3] (*Deppe*)[1], Jalapa (*Höge*); Costa Rica (*Van Patten*).

The Costa-Rican example differs slightly from those from Mexico, the semihyaline bands on the primaries being considerably wider in the male specimen before me, and the red marginal band of the secondaries narrower. This species appears to be very rare; I have only received three specimens.

11. Pericopis fenestrata.

Pericopis fenestrata, Butl. Trans. Ent. Soc. 1872, p. 50.
Daritis fenestrata, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 170.

Hab. Guatemala, San Gerónimo (*Salvin*).

Mr. Butler states that this is a local form of the Mexican *P. thetis*. I have not seen the type of *P. fenestrata*.

12. Pericopis leonina.

Pericopis leonina, Butl. Cist. Ent. p. 89[1]; Trans. Ent. Soc. 1872, p. 58; Lep. Exot. t. lxi. fig. 10; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 167.

Hab. Costa Rica, Cartago (*Van Patten*)[1], Irazu 6000 to 7000 feet (*Rogers*).

13. Pericopis bivittata.

Pericopis bivittata, Walk. Cat. ii. p. 348[1]; Butl. Trans. Ent. Soc. 1872, p. 56; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 167.
Pericopis disjuncta, Walk. Cat. vii. p. 1655[2].
Chetone aorsa, Boisd. Lép. Guat. p. 90[3].
Pericopis lucretia, Butl. Ann. & Mag. Nat. Hist. 4th ser. xv. p. 340[4]; ib. xvi. p. 167.

Hab. Guatemala[3], Purula, Zapote (*Champion*); Panama (*Ribbe, mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion; and Ribbe, mus. Staudinger*), Veraguas (*Salvin, mus. D.*)[4].—Colombia[2], Manaure (*Simons, mus. D.*); Venezuela[1].

This is a very variable insect. I have a fair series of specimens before me, but no two are quite alike; in some specimens the bands on the primaries are much wider and quite pale in colour, in others they are narrower and quite dusky; and the black band of the secondaries is (in some specimens) broad and well defined, in others it is almost obsolete and thus approaching very closely to *P. amphissa* from South Brazil.

In fact I think it more than probable that *P. bivittata* will prove to be identical with that species when we have received sufficient material for comparison.

14. **Pericopis daphne,** sp. n. (Tab. XII. fig. 1.)

Primaries reddish-brown crossed by two white bands, the one nearest the base much shaded with brown and broken into two spots, a marginal row of small white spots from the apex to the anal angle; secondaries yellowish-brown, almost orange at the base, with an indistinct central dusky black line across the middle, the outer margin broadly bordered with dark brown and with a marginal row of small white dots; on the underside the white bands on the primaries are much more distinct, and the secondaries have a white spot at the end of the cell: head, thorax, and abdomen dusky brown, the underside of the abdomen creamy-white; legs black. Expanse $2\frac{3}{4}$ inches.

Hab. PANAMA (*Ribbe, mus. Staudinger*).

This species is very distinct, but is most nearly allied to *P. bivittata*, Walk. The only specimen known to me is in Dr. Staudinger's collection.

15. **Pericopis umbra,** sp. n. (Tab. XII. fig. 2.)

Primaries brownish-black clouded with pale yellow, a short transverse band near the apex; secondaries orange-yellow with the outer half brownish-black, a submarginal row of large orange-coloured spots and a marginal row of very minute white dots: head and thorax dusky brown; abdomen yellowish-brown, lightest close to the base, a black line down the middle from the base to the anus, underside black. Expanse $2\frac{1}{2}$ inches.

Hab. SALVADOR (*mus. Staudinger*).

Of this species I have only seen a single specimen, in poor condition.

16. **Pericopis histrio.**

Anthomyza histrio, Felder, Reise Nov. Lep. iv. t. 103. fig. 5.

Chetone histrio, Butl. Ann. & Mag. Nat. Hist. 4th ser. viii. p. 290[1]; xvi. p. 168[2]; Boisd. Lép. Guat. p. 91[3].

Pericopis histrio, Butl. Trans. Ent. Soc. 1872, p. 58[4].

Hab. GUATEMALA[3]; HONDURAS[3]; PANAMA, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).—AMAZONS[1 2 4]; ECUADOR (*Buckley, mus. D.*).

The specimen in Dr. Staudinger's collection is the only one I have seen from our country; it agrees well with Dr. Felder's figure, also with specimens in my own collection from Ecuador.

17. **Pericopis angulosa.**

Pericopis angulosa, Walk. Cat. ii. p. 345[1]; Butl. Trans. Ent. Soc. 1872, p. 55.

Chetone angulosa, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 168.

Chetone heliconides, Boisd. Lép. Guat. p. 91[2]; Butl. Trans. Ent. Soc. 1872, p. 257.

Pericopis irenides, Butl. Cist. Ent. i. p. 88[3]; Trans. Ent. Soc. 1872, p. 58.

Chetone irenides, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 169.

Hab. GUATEMALA[2], Panima (*Champion*); NICARAGUA, Chontales (*Belt, mus. Oxford*); COSTA RICA, Cartago[3] (*Van Patten, mus. D.*), Cache (*Rogers*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—VENEZUELA[1].

This species varies to a considerable extent, both in the brown bands of the primaries and also in colour. Having compared the types of the above-mentioned so-called species together, and with a good series of specimens, I do not hesitate to consider all to belong to one and the same species. The type specimen of Boisduval's *C. heliconides* is labelled as from Colombia, although he gives Guatemala as the locality in his description.

18. **Pericopis felderi.** (Tab. XII. fig. 4.)

Chetone felderi, Boisd. Lép. Guat. p. 91[1]; Butl. Trans. Ent. Soc. 1872, p. 256; Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 168.

Hab. Nicaragua [1].

I am indebted to the kindness of M. C. Oberthür for sending me Boisduval's type to figure; it is the only specimen known to me. *P. felderi* is a very distinct species, and easily recognized from all its allies by the white bands and spots of the primaries and secondaries.

19. **Pericopis salvini.** (Tab. XII. fig. 3.)

Anthomyza salvini, Felder, Reise Nov. Lep. iv. t. 103. f. 8[1]; Butl. Ann. & Mag. Nat. Hist. 4th ser. viii. p. 290.

Pericopis salvini, Butl. Trans. Ent. Soc. 1872, p. 58.

Chetone salvini, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 168.

Hab. Central America (*Salvin, mus. Felder*)[1]; Guatemala, Polochic valley (*Salvin, mus. Oxford*); Panama, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

I have figured what I believe to be the male of Dr. Felder's species; it agrees in many respects with his figure, but the primaries are much blacker, reducing the fulvous area to two longitudinal bands.

20. **Pericopis ithomia.**

Anthomyza ithomia, Felder, Reise Nov. Lep. iv. t. 103. f. 7[1].

Chetone ithomia, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 169; Boisd. Lép. Guat. p. 92.

Hab. Central America (*Salvin, mus. Felder*)[1]; Guatemala, Chacoj in Vera Paz (*Champion*); Panama, Volcan de Chiriqui (*Ribbe*).

I have received specimens of this insect as *P. lycorea,* Staud.; but I cannot find the description, and therefore take it to be a manuscript name.

21. **Pericopis phœba.**

Chetone phœba, Boisd. Lép. Guat. p. 90[1].

Phaloë phœba, Butl. Ann. & Mag. Nat. Hist. 4th ser. xvi. p. 169[2].

Pericopis isse, Walk. (nec Hübn.) Cat. ii. p. 344.

Hab. ? Guatemala [1].—Amazons [2]; Ecuador (*Buckley, mus. D.*).

The occurrence of this species in our country is doubtful; the only authority I have

for including it is Boisduval's. I have compared the type with a fine series of specimens in my own collection, and find that it is in every respect similar to examples from Ecuador

ISOSTOLA.

Isostola, Felder, Reise Nov. Lep. iv. t. 103. f. 15.

This genus was founded by Dr. Felder for the reception of an insect (*I. rhodobroncha*) discovered by Mr. Bates on the Amazons.

1. **Isostola superba,** sp. n. (Tab. XII. fig. 5.)

Primaries and secondaries deep black with a brilliant dark blue gloss, the base of the former pale blue; a central whitish-hyaline band from the base to beyond the middle of the primaries, and a transverse band of the same colour beyond and nearer the apex; secondaries with a central hyaline streak, the inner margin also hyaline: head, thorax, and abdomen bright glossy blue; the abdomen with a narrow central white line; on the underside the abdomen is quite white; antennæ black, rather deeply pectinated; legs black on the upper side, white beneath. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Teleman in the Polochic valley (*Champion*).

Of this beautiful species Mr. Champion only obtained two examples, both of which are in the finest condition; it is allied to *I. rhodobroncha*, Feld., but is easily distinguished from that species by its more elegant form and more hyaline markings.

GNOPHÆLA.

Gnophæla, Walker, Cat. ii. p. 330; Stretch, Illust. of the Zygænidæ and Bombycidæ of North America, p. 35 (1872–73).

This genus was founded by the late Mr. Walker for the reception of a species said to come from South America; this locality appears to me to be very doubtful. The known species are all from North America and Mexico, one only having been recorded from as far south as Nicaragua. *Gnophæla* has been placed in the Zygænidæ by several authors, but it appears to me to be much more nearly related to *Pericopis*; I have therefore ventured to place it near that genus.

1. **Gnophæla æquinoctialis.**

Dioptis æquinoctialis, Walk. Cat. ii. p. 331 [1].
Gnophæla æquinoctialis, Boisd. Lép. Guat. p. 87 [2].

Hab. MEXICO, Milpas 5900 feet (*Forrer*), Esperanza, Jalapa (*Höge*); NICARAGUA [2].—? SOUTH AMERICA [1], Venezuela [2].

This species appears to be pretty common in Mexico; the long series of specimens before me all agree well with Walker's type in the British Museum; the females are considerably larger than the males, in this respect differing from the other known species.

2. **Gnophæla morrisoni** *, sp. n. (Tab. XII. fig. 7.)

Allied to and about the same size as *G. hopfferi*, but differs from that species in the ground colour of the wings being deep glossy blue-black, instead of dull black; the pale-coloured markings are much larger and more transparent, and the apical band consists of four distinct spots instead of three, as in *G. hopfferi*.

Hab. Mexico, Northern Sonora (*Morrison*).

This insect is very closely allied to *G. hopfferi*; in fact I think it is probably a southern form of that species, specimens of which, collected by Lord Walsingham in California, are before me, but it is always easily distinguished from *G. hopfferi* by the above-mentioned differences. Of *G. morrisoni* I have fifteen examples before me sent to Mr. Godman and myself by the late Mr. H. K. Morrison, after whom I have named it.

Subfam. *ARCTIINÆ*.

LEUCARCTIA.

Leucarctia, Packard, Proc. Ent. Soc. Phil. iii. p. 124.

This genus is closely allied to *Spilosoma*; the species are, however, mostly larger in size, and possess a different style of coloration, besides which there are other important characters that warrant its separation from that genus.

1. **Leucarctia acræa.**

Bombyx acria, Drury, Ill. Nat. Hist. i. t. 3. f. 2.

Bombyx caprotina, Drury, Ill. Nat. Hist. i. t. 3. f. 3; Cram. Pap. Exot. iii. t. 287. f. C.

Phalæna acria, Smith, Lep. Ins. Georg. ii. p. 133, t. 67.

Estigmene acria, Hübn. Samml. exot. Schmett. ii. t. 191; Verz. bek. Schmett. p. 184.

Arctia pseuderminea, Harris, Mass. Ag. Rep. p. 332, t. 1.

Arctia acria, Harris, Cat. Ins. Mass. p. 591.

Spilosoma acrea, Walk. Cat. iii. p. 667; Duncan, Nat. Lib. xxxii. p. 171, t. 20. figg. 1, 2, 3; Clem. Proc. Acad. Nat. Sci. Phil. p. 531; Harris, l. c. 3rd ed. t. 6. figg. 9, 10, fig. 169, larva; Morris, Syn. Lep. N. Am., Suppl. p. 342.

Leucarctia acræa, Pack. Proc. Ent. Soc. Phil. iii. p. 124; Stretch, Illust. of Zyg. and Bomb. N. Am. p. 99, t. 4. figg. 1, 2, 3, t. 10. f. 6, larva.

Hab. North America.—Mexico, Presidio (*Forrer*), Cordova (*Rümeli*), Jalapa (*Höge*).

This species is a very common one throughout North America, and its range extends as far south as Mexico. It appears to be a very variable insect: in some specimens before me the black spots are almost absent, in others they are exceedingly well defined; but in a long series of specimens I find every grade from a white wing thickly spotted with black to a wing almost white and with exceedingly few spots; in fact I cannot detect any difference whereby to separate them, although if I took individual specimens I might easily describe them as distinct species.

* The name of this species is erroneously given as *Gonophæla morrisoni* on the Plate.

2. Leucarctia albida.

Leucarctia albida, Stretch, Illust. of Zyg. and Bomb. N. Am. p. 203, t. 8. f. 22[1]; Report upon Expl. West. 100th Mer. (Wheeler) V. Zool. p. 798, t. xl. figg. 4, 5.

Hab. NORTH AMERICA, California [1].—BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*); COSTA RICA, Irazu 6000 to 7000 feet, Rio Sucio, Cache (*Rogers*, *Van Patten*).

The examples from Costa Rica agree well with Stretch's figure. Stretch states that he has a specimen of the male from Costa Rica, sent to him by Van Patten, and that the female was then unknown. I have specimens of the female before me, and find that they are similar to the male, but considerably larger; in no other respect do they differ.

SPILOSOMA.

Spilosoma, Stephens, Ill. Brit. Ent. Haust. ii. p. 74.

This genus is represented in our country by one species only.

1. Spilosoma mexicana.

Spilosoma mexicana, Walk. Cat. xxxi. p. 291[1].

Hab. MEXICO, Oaxaca (*Sallé*)[1].

ROBINSONIA.

Robinsonia, Grote, Proc. Ent. Soc. Phil. v. p. 241.

This genus is closely allied to *Sallæa*, Felder, from which it is easily distinguished by its much longer and narrower wings.

1. Robinsonia formula.

Robinsonia formula, Grote, Proc. Ent. Soc. Phil. v. p. 241, t. 4. f. 3[1].

Hab. COSTA RICA (*Van Patten*); PANAMA, Volcan de Chiriqui (*Trötsch*, *mus. Staudinger*).—CUBA [1] (*Poey*).

I have received a single specimen of what I believe to be a female of this species; it is in very bad condition.

2. Robinsonia perfecta.

Robinsonia perfecta, H. Edwards, Papilio, iv. p. 60[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*)[1].

Mr. Edwards states that this species is closely allied to *R. formula*, Grote. I have not seen a specimen, but from the description I doubt its being distinct.

SALLÆA*.

Sallæa, Felder, Reise Nov. Lep. iv. t. 101. f. 10 (Nov. 1874).

This genus was founded by Dr. Felder for the reception of a species from Mexico.

* The name *Sallæa* has also been used by Chevrolat (Rev. et Mag. Zool. 1874, p. 286) and Gorham (B. C. A. Col. iii. pt. 2, p. 164) for a genus of Cleridæ.

1. Sallæa ochrosterna.

Sallæa ochrosterna, Feld. Reise Nov. Lep. iv. t. 101. f. 10[1].

Hab. Mexico [1], Jalapa (*Höge*).

This species is well figured by Dr. Felder. I have only seen two specimens, a male and a female; it appears to be a very rare insect.

ARCTIA.

Arctia, Schrank, Faun. Boic. ii. part 2, p. 152 (1802).

This genus is very widely distributed over the globe, species being found throughout Europe, Asia, and North America.

1. Arctia docta.

Euprepia docta, Walk. Cat. iii. p. 592[1].

Arctia mexicana, Grote and Robinson, Ann. Lyc. New York, viii. p. 367, t. 13. f. 3[2].

Chelonia autholea, Boisd. Lep. Calif. p. 76[3].

Arctia autholea, Stretch, Illust. of Zyg. and Bomb. N. Am. p. 74, t. 3. figg. 3, 4[4].

Hab. North America, California [3 4].—Mexico [1 2 3], Jalapa (*Höge*); Guatemala [1], Panajachel 5000 feet, Purula, Balheu (*Champion*); Costa Rica, Cache, Irazu 6000 to 7000 feet (*Rogers, Van Patten*).

Upon comparing Mr. Grote's type of *A. mexicana* with Walker's specimen of *A. docta* in the British Museum, I find that they are identical. This species varies very much in both sexes: I have a very fine series of specimens before me; in some of them the dark markings of the primaries are quite small and almost obliterated, in others the primaries are almost black; the secondaries of the females vary from red with a few black spots to having the outer half of the wing entirely black. In Mexico and Costa Rica this insect appears to be very common, but in Guatemala Mr. Champion obtained very few examples.

2. Arctia eminens.

Arctia eminens, H. Edwards, Papilio, iv. p. 59[1].

Hab. Mexico, State of Vera Cruz (*Schaus*) [1].

HERACLIA.

Heraclia, Hübner, Verz. bek. Schmett. p. 180.

One species of this genus occurs in our country.

1. Heraclia fervida.

Arctia fervida, Walk. Cat. iii. p. 612[1].

Heraclia commixta, Butl. Ill. Lep. Het. p. 54, t. 19. f. 1[2].

Hab. Guatemala [1 2].

Upon inquiring for the type of Walker's *A. fervida* in the British Museum, I found that it had been redescribed by Mr. Butler through Walker having omitted to attach his name to the specimen; but upon reference to the registers I found that the individual named by Mr. Butler was the specimen upon which Walker founded his description. It is the only specimen I have seen.

ANTARCTIA.

Antarctia, Hübner, Verz. bek. Schmett. p. 191.

This genus now has seven or eight species placed in it, one of which inhabits Mexico.

1. Antarctia expressa.

Antarctia expressa, H. Edwards, Papilio, iv. p. 60 [1].

Hab. Mexico, State of Vera Cruz (*Schaus*) [1].

EUCHÆTES.

Euchætes, Harris, Rep. Ins. Mass. p. 257.

1. Euchætes immanis.

Euchætes immanis, H. Edwards, Papilio, iv. p. 75 [1].

Hab. Mexico, State of Vera Cruz (*Schaus*) [1].

2. Euchætes emendatus.

Euchætes emendatus, H. Edwards, Papilio, iv. p. 61 [1].

Hab. Mexico, State of Vera Cruz (*Schaus*) [1].

Mr. Edwards states that this species is allied to his *E. inopinatus*. It is quite unknown to me.

3. Euchætes fumidus.

Euchætes fumidus, H. Edwards, Papilio, iv. p. 61 [1].

Hab. Mexico, State of Vera Cruz (*Schaus*) [1].

Fam. CHALCOSIIDÆ.

The family Chalcosiidæ, so far as it is known to me, is only represented in our country, or indeed in the whole of the Neotropical Region, by one genus, *Gingla*, now containing three species (two of which are described here as new) of great interest, all being mimics of insects belonging to widely different families and genera. This family has recently been placed by Mr. Butler next the Agaristidæ, and I think well placed for the time being, but it seems to me in many points to be very nearly allied to the Lithosiidæ. At the time of the publication of the species belonging to the family Agaristidæ I was not in possession of any specimens belonging to this family; but I think it better to include it in this place and describe the new species, than to allow it to remain till the publication of the Supplement.

GINGLA.

Gingla, Walker, Cat. xxxi. p. 128.

Gingla does not appear to be nearly allied to any described genus, and, as far as at present known to me, it is restricted to Mexico and Guatemala.

1. **Gingla radialis.** (Tab. XII. fig. 26.)

Gingla radialis, Walk. Cat. xxxi. p. 128 [1].

Hab. MEXICO, Orizaba (*Stevens*) [1]; GUATEMALA, Calderas, San Gerónimo (*Champion*).

The specimen from Calderas differs slightly from those from San Gerónimo in colour; it is rather paler and the black marginal border of the secondaries is much narrower, but in all other respects it is identical.

2. **Gingla josialis,** sp. n. (Tab. XII. fig. 27.)

Primaries deep black, with the costal margin from the base to near the middle edged with chrome-yellow, the inner margin broadly banded with chrome-yellow, a short black line from the base but not extending to the middle of the wing; secondaries black, the costal margin broadly bordered with yellow to the middle of the wing, the inner and half the outer margin narrowly bordered with yellow: head, thorax, and abdomen black, the sides streaked with bright yellow; antennæ and legs black. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Panima and Cubilguitz (*Champion*).

This beautiful little species resembles, to some extent, the Colombian *Josia ligata,* Walk.

3. **Gingla tortricalis,** sp. n. (Tab. XII. fig. 28.)

Primaries deep orange-yellow, with the costal and outer margins edged with black and white narrow streaks; secondaries orange-yellow, streaked with bluish-black: antennæ and head black; thorax black; tegulæ yellow; abdomen blue-black, banded with yellow; legs black. Expanse $1\frac{1}{4}$ inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*).

This pretty little insect closely resembles *Aterica rivularis,* Butl.; but it has more black on the secondaries.

Fam. LITHOSIIDÆ.

This family, as at present recognized, has been very considerably altered since the publication of Walker's Catalogue, and many of the species included in it by that author have been removed into other families; it is well represented in our country.

CHRYSOCALE.

Chrysocale, Walker, Cat. i. p. 208.

This genus, as restricted by Mr. Butler, has now only one species placed in it. Mr. Butler (Trans. Ent. Soc. 1877, p. 325) says, "This generic name cannot be retained as originally applied; I have therefore adopted it for *C. magnifica* only, using Walker's extension of the group."

1. **Chrysocale magnifica.** (Tab. XII. fig. 10.)

Chrysocale magnifica, Walk. Cat. xxxi. p. 96[1]; Butler, Trans. Ent. Soc. 1877, p. 325, t. 8. figg. 1, 2.

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).—COLOMBIA, Bogota[1]; ECUADOR, Sarayacu (*Buckley, mus. D.*).

I have only seen a single example of this fine insect from our country; it agrees in every respect with those sent me from Ecuador. For the pleasure of adding it to our fauna I am indebted to the kindness of Dr. Staudinger, who forwarded me his example for determination. The figure is taken from his specimen.

APISTOSIA.

Apistosia, Hübner, Verz. bek. Schmett. p. 163.

This genus is closely allied to *Antona*, Walk.

1. **Apistosia judas.**

Apistosia judas, Hübn. Verz. bek. Schmett. p. 163. no. 1693; Zutr. erst. Hund. p. 13, figg. 51, 52; Walk. Cat. ii. p. 478[1]; Butl. Trans. Ent. Soc. 1877, p. 326[2].

Hab. GUATEMALA[2]; HONDURAS (*Dyson*)[1 2]; NICARAGUA, Chontales (*Belt*); PANAMA, Bugaba (*Champion*).

I have only received two examples of this insect; it differs from all the nearly allied forms in having the head and thorax bright red.

2. **Apistosia terminalis.**

Apistosia terminalis, Walk. Cat. ii. p. 478[1]; Butl. Trans. Ent. Soc. 1877, p. 326[2].

Hab. MEXICO (*Doubleday*)[1 2].

I have not received any specimens from Mexico that quite agree with this species, though some are very nearly allied.

3. **Apistosia tenebrosa,** sp. n.

Closely allied to *A. judas*, Hübn.; the primaries are browner and the secondaries have a dark blue gloss: head and front of thorax orange-yellow, as in *A. judas*, but the tegulæ are black instead of yellow; anus yellow; abdomen blue-black; antennæ and legs black. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalapa (*Höge*).

A specimen of this insect is in the British Museum collection under the name of *A. tenebrosa*, Walk.; but I cannot find that it was ever described by that author. Although closely allied to *A. judas* it may at once be distinguished from that species by the tegulæ being black and the anus yellow, the reverse being the case in *A. judas*.

4. **Apistosia metella,** sp. n. (Tab. XII. fig. 6.)

Primaries glossy bronze-green; secondaries dark bluish-black, with a central semihyaline streak: head and collar orange; thorax, tegulæ, and abdomen greenish-black, the underside of the abdomen bright orange; antennæ and legs black. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Capetillo (*Champion*).

This species is very like *A. judas*, from which it is at once distinguished by the tegulæ being black and also by the hyaline streak on the secondaries.

5. **Apistosia sylla,** sp. n. (Tab. XII. fig. 8.)

Primaries greenish-black; secondaries uniform deep black; head and antennæ black; collar and front of thorax brick-red; thorax and abdomen black, the underside of the latter bright red; legs greenish-black. Expanse $1\frac{3}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

This species appears to be very common on the Volcano of Chiriqui.

6. **Apistosia enna,** sp. n. (Tab. XII. fig. 9.)

Primaries glossy greenish-black; secondaries whitish hyaline, broadly bordered with black: head, collar, and tegulæ dark orange; thorax and abdomen black; the abdomen on the underside close to the anus bright orange; antennæ and legs black. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalapa (*Höge*).

This species is quite unlike any other known to me.

LERINA.

Lerina, Walker, Cat. ii. p. 477.

Walker founded this genus upon a Mexican insect.

1. **Lerina incarnata.**

Lerina incarnata, Walk. Cat. ii. p. 477 [1]; Butl. Trans. Ent. Soc. 1877, p. 326.

Hab. MEXICO (*Doubleday*) [1], Guanajuato (*Boucard, mus. D.*).

TUINA *.

Tuina=Ituna (Walker, nec Doubleday), Butler, Trans. Ent. Soc. 1877, p. 326.
Ituna, Walker, Cat. ii. p. 480.

Walker founded this genus for the reception of a single species from Honduras; it appears to be closely allied to *Apistosia*.

1. **Tuina cingulata.** (Tab. XII. fig. 11.)

Ituna cingulata, Walk. Cat. ii. p. 481 [1].
Tuina cingulata, Butl. Trans. Ent. Soc. 1877, p. 326 [2].

Hab. GUATEMALA, San Gerónimo (*Champion*); HONDURAS (*Dyson*) [1 2].

A single specimen of this species was taken by Mr. Champion; it agrees well with the type in every respect.

2. **Tuina sangala,** sp. n. (Tab. XII. fig. 12.)

Primaries greenish-black; secondaries bright carmine, broadly bordered with deep black: head, thorax, and abdomen black; tegulæ and sides of the abdomen orange-yellow; antennæ and legs black. Expanse $1\frac{1}{4}$ inch.

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* The name of this genus is erroneously printed *Tunia* on the Plate.

Hab. GUATEMALA, Panima (*Champion*); PANAMA, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

This pretty little species is allied to *T. cingulata*, Walk., from which it is distinguished by its bright carmine hind wings.

CŒMENTA, n. g.

Primaries long, rather narrow and much rounded at the anal angle; secondaries short and broad, not reaching the anal angle of the primaries: head small, palpi very minute; antennæ stout and slightly pectinated; thorax broad and rather flat; abdomen short and thick, only just extending beyond the secondaries; legs short and stout.

This genus seems allied to *Tuina*, Walker, from which it differs in its narrower and more rounded wings, much smaller palpi, and more robust antennæ.

1. **Cœmenta timon**, sp. n. (Tab. VI. fig. 1.)

Primaries brownish-black; secondaries bright red, the margins black: head, thorax, and abdomen brownish-black, a bluish line on each side of the abdomen; antennæ and legs greenish-black.

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*).

Only a single example of this species was obtained; it reminds one at first sight of a *Zygæna*, but the neuration differs very greatly from that genus.

2. **Cœmenta morio**, sp. n. (Tab. VI. fig. 2.)

Primaries uniform bluish-black; secondaries very dark blue: head, thorax, and abdomen glossy black, the sides of the abdomen red; antennæ, palpi, and legs black. Expanse $1\frac{1}{8}$ inch.

Hab. GUATEMALA, Panima in Vera Paz (*Champion*); COSTA RICA, Rio Sucio (*Rogers*).

This species seems to be rare: Mr. Champion only captured a single example in Guatemala; from Costa Rica two specimens in very poor condition were obtained by Mr. Rogers.

CISTHENE.

Cisthene, Walker, Cat. ii. p. 533.

All the species of this genus seem to be rare; I have only received a very few examples from our country. The genus was founded by Walker for the reception of a species from Venezuela.

1. **Cisthene unifascia.**

Cisthene unifascia, Grote, Trans. Am. Ent. Soc. ii. p. 187, t. 2. fig. 63[1]; Butl. Trans. Ent. Soc. 1877, p. 327[2].

Hab. NORTH AMERICA, Texas (*Belfrage*)[1 2].—MEXICO, Jalapa (*Höge*).

A single example only of this species has been received from our country.

2. **Cisthene polyzona**, sp. n. (Tab. XII. fig. 13.)

Primaries pale brown, with a creamy-white spot on the costal margin beyond the middle, and two creamy-white spots on the inner margin, the first close to the base, the second beyond and nearer the anal angle;

secondaries pale pink, bordered with black at the apex: head and thorax creamy-white; abdomen pink; legs pinkish-white; antennæ black. Expanse ½ inch.

Hab. Mexico, Presidio (*Forrer*); Panama, Caldera in Chiriqui 1200 feet (*Champion*).

This pretty little species is allied to *C. unifascia*, Grote; the example from the State of Panama is considerably smaller than the one from Mexico, but in all other respects they are alike.

3. **Cisthene citrina,** sp. n. (Tab. XII. fig. 14.)

Primaries pale glossy yellow, with two narrow black bands crossing from the costal to the inner margin, a small black streak from the middle of the second band to the outer margin; secondaries dark yellow, broadly bordered with black from the apex to the middle of the outer margin: head black; thorax pale yellow; abdomen dark yellow; antennæ black, with the tips pale yellow; legs black. Expanse ¾ inch.

Hab. Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Only a single example of this beautiful little insect was obtained.

4. **Cisthene criton,** sp. n. (Tab. XII. fig. 16.)

Primaries black; secondaries very bright pale blue, broadly bordered with black: head, thorax, and antennæ black; abdomen bright greenish-blue; legs black. Expanse ¾ inch.

Hab. Guatemala, Purula (*Champion*).

I am doubtful if this species should be placed in the genus *Cisthene*, but only having a single example I am unable to determine that point with certainty; the primaries are considerably narrower and longer.

ODOZANA.

Odozana, Walker, Cat. xxxi. p. 109.

This genus appears to me to be best included in the Lithosiidæ near *Talara*. Walker placed it in the Zygænidæ before the genus *Urodus*, with which it does not seem to me to have any affinity.

1. **Odozana floccosa.** (Tab. XII. fig. 18.)

Odozana floccosa, Walk. Cat. xxxi. p. 110 [1].

Hab. Panama, Volcan de Chiriqui (*Trötsch, mus. Staudinger*), Bugaba between 800 and 1500 feet (*Champion*).—Amazons, Ega (*Bates*) [1].

Of this very curious little species I have only received a single example; the specimen in Dr. Staudinger's collection is a very small one.

2. **Odozana hercyna,** sp. n. (Tab. XII. fig. 17.)

Primaries brownish-black, lightest near the apex; secondaries bright carmine, with the costal margin and apex brown: head, thorax, antennæ, and legs black; abdomen red, with the anal tuft orange-red. Expanse ½ inch.

Hab. Guatemala, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo (*Champion*).

This species is allied to *O. floccosa*, Walker; the red secondaries, however, at once distinguish it from that species.

3. **Odozana elis,** sp. n. (Tab. XII. fig. 19.)

Primaries uniform glossy greenish-brown; secondaries similar but paler in colour: head, thorax, and abdomen brownish-black, the anal tuft yellow and black; legs black; (antennæ wanting;) underside uniform pale brown. Expanse 1 inch.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*).

I have only received a single example of this dull-coloured little species; it is quite different from all others known to me.

4. **Odozana cordatula,** sp. n. (Tab. XII. fig. 20.)

Primaries uniform glossy brown; secondaries yellow, broadly banded with brown at the apex: head, thorax, and abdomen brownish-black, the abdomen banded in the middle with reddish-yellow; antennæ and legs black. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, El Tumbador 2500 feet, Las Mercedes (*Champion*).

In *O. cordatula* the hind wing is more produced at the anal angle than in any other species of the genus known to me.

5. **Odozana hippona,** sp. n. (Tab. XII. fig. 15.)

Primaries uniform golden-brown, with a greenish shot in some lights; secondaries bright red: head, thorax, and antennæ brownish-black; abdomen and anal tuft yellowish-red; underside the same as above, but paler in colour. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, Cubilguitz and Panima (*Champion*).

Of this pretty little species Mr. Champion only obtained two specimens.

TALARA.

Talara, Walker, Cat. xxxv. p. 1891.

Walker founded this genus for a small Amazonian insect, and states that it has an affinity with the Zygænidæ. This I fail to see, as it is most certainly one of the Lithosiidæ, in which family Mr. Butler has lately placed it.

1. **Talara coccinea.**

Talara coccinea, Butl. Trans. Ent. Soc. 1877, p. 329[1].

Hab. PANAMA, Caldera in Chiriqui 1200 feet (*Champion*).—AMAZONS, Villa Nova[1].

The example from the State of Panama agrees well in all respects with Mr. Butler's type in the British Museum. The specimen taken by Mr. Champion is the only one that I have seen from our country.

2. **Talara pelopia,** sp. n. (Tab. XII. fig. 21.)

Primaries dark orange-yellow, except the apex and outer margin, which is broadly bordered with black; secondaries dark yellow, broadly bordered with black: head, thorax, and abdomen black; tegulæ orange-yellow; antennæ and legs black. Expanse 1 inch.

Hab. PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

This species is allied to *T. coccinea,* Butl., from which it is readily distinguished by the wide black outer margin of the primaries and by the yellow on the secondaries.

PSEUDOTALARA, n. g.

Allied to *Talara*, but the primaries and secondaries longer and not quite so broad; the costal margin of the former rather more arched and rounder at the apex; the secondaries very much rounded from the apex to the anal angle: head small, palpi very minute; antennæ long and slender; thorax and abdomen rather slender, the abdomen extending slightly beyond the wings; legs long.

1. **Pseudotalara chrysippa,** sp. n. (Tab. XII. fig. 22.)

Primaries black, with two streaks of yellow, the first extending from the base to near the anal angle, the second starting from the middle and nearly reaching the apex; secondaries orange-yellow, bordered with black at the apex and along part of the outer margin: head, thorax, and abdomen black; antennæ and legs black. Expanse 1 inch.

Hab. GUATEMALA, Quiche Mountains 7000 to 9000 feet (*Champion*).

This pretty little species is very distinct from any other known to me.

BRYCEA.

Brycea, Walker, Cat. ii. p. 563.

Walker founded this genus upon a Brazilian insect.

1. **Brycea disjuncta.** (Tab. XII. fig. 23.)

Brycea disjuncta, Walk. Cat. ii. p. 563[1]; Butl. Trans. Ent. Soc. 1877, p. 330[2].
Euchelia jenna, Boisd. Lép. Guat. p. 96[3].

Hab. MEXICO[3]; GUATEMALA[3].—BRAZIL[1 2].

Through the kindness of M. C. Oberthür I have been enabled to see Boisduval's type, and upon comparing it with Walker's I find them in all respects similar. I very much doubt the occurrence of the species in our country, not having received a single specimen in any of the larger collections that have come into my hands during the last few years. I have specimens in my own collection from South-east Brazil.

GERBA.

Gerba, Walker, Cat. xxxi. p. 270.

This genus is scarcely distinct from *Ruscino*, Walk.

1. **Gerba quadrifasciata.**

Gerba quadrifasciata, Walk. Cat. xxxi. p. 270[1].

Hab. MEXICO, Oaxaca (*Sallé*)[1].

The only example of this species known to me is the type in the British Museum.

RUSCINO.

Ruscino, Walker, Cat. ii. p. 563.

In our country this genus is represented, as far as I know, by five species of very doubtful value; in fact I believe that when we have sufficient material we shall find that they are nothing but slight varieties of one or at most two species.

1. **Ruscino arctifascia.**

Ruscino arctifascia, Butl. Trans. Ent. Soc. 1877, p. 330[1].
Ruscino menea, Walker (nec Drury), Cat. ii. p. 564[2].
Hab. HONDURAS (*Dyson*)[1 2].

This species appears to be scarce; I have not received any specimens.

2. **Ruscino latifasciata.** (Tab. XII. fig. 24.)

Ruscino latifasciatus, Butl. Ann. & Mag. Nat. Hist. ser. 4, xv. p. 341; Trans. Ent. Soc. 1877, p. 330.
Hab. GUATEMALA, Cubulco, Teleman, San Gerónimo (*Champion*); PANAMA, Veraguas (*Arcé*).

This species differs from all the other described forms by having all the markings a much deeper black, and by the very much wider black borders of the secondaries; at the same time I think it is more than probable that it is only a seasonal form of *R. lætifera.*

3. **Ruscino lætifera.**

Ruscino lætifera, Walk. Cat. xxxi. p. 264[1]; Butl. Trans. Ent. Soc. 1877, p. 330.
Hab. MEXICO[1], Jalapa (*Höge*); GUATEMALA, Zapote (*Champion*); NICARAGUA, Chontales (*Belt*).

4. **Ruscino lunaris.**

Cisthene lunaris, Walk. Cat. xxxi. p. 241[1].
Ruscino lunaris, Butl. Trans. Ent. Soc. 1877, p. 330[2].
Hab. MEXICO, Yucatan[2].—COLOMBIA, Bogota[1].

I include this species in our fauna upon the authority of the specimen in the British Museum. I have not received any specimens of it.

5. **Ruscino menea.**

Phalæna (*Noctua*) *menea,* Drury, Ill. Nat. Hist. iii. t. 3. f. 2; Walk. Cat. vii. p. 1779[1].
Ruscino menea, Butl. Trans. Ent. Soc. 1877, p. 330[2].
Hab. PANAMA, Caldera in Chiriqui 1200 feet (*Champion*), Colon (*Boucard, mus. D.*). —BRAZIL[1 2].

The example from Colon is rather paler in colour than the others, but in all respects it agrees well with them.

PYRALOPSIS.

Pyralopsis, Felder, Reise Nov. Lep. iv. t. 105. f. 13, Index, p. 8; Boisduval, Lép. Guat. p. 94.

This genus was founded by Dr. Felder upon an insect from Guatemala*.

* *Pyralopsis divisa,* Boisd. (=*Mapeta xanthomelas,* Walk.), belongs to the Pyralidæ.

1. **Pyralopsis homalochroa.**

Pyralopsis homalochroa, Feld. loc. cit.[1]; Boisd. Lép. Guat. p. 94[2].

Hab. Guatemala [1 2].

I have not seen an example of this species, said to be rather common in Guatemala.

MESENOCHROA*.

Mesenochroa, Felder, Reise Nov. Lep. iv. t. 105. fig. 30, Index, p. 6.

This genus is very closely allied to *Pyralopsis*, and is figured by Dr. Felder on the same plate; in fact I think it is exceedingly doubtful if they are distinct.

1. **Mesenochroa guatemalteca.**

Mesenochroa guatemalteca, Feld. Reise Nov. Lep. iv. t. 105. f. 30[1].

Pyralopsis guatemalteca, Boisd. Lép. Guat. p. 94[2].

Hab. Guatemala [1 2], Purula (*Champion*).

Of this pretty little species Mr. Champion obtained but few examples; he only met with it at Purula. Boisduval states it to be common in Guatemala.

2. **Mesenochroa rogersi,** sp. n. (Tab. XII. fig. 25.)

Allied to *M. guatemalteca,* Feld. Primaries orange-red, the black spots and streaks very similar, but the spots are considerably larger, an indistinct band of black spots crossing the middle of the wing from the costal to the inner margin; secondaries orange-red, with a wide bluish-black streak from the base along the abdominal margin, the outer row of black streaks larger than they are in *M. guatemalteca*: head, antennæ, and palpi black; thorax orange; abdomen black, banded with orange; legs black. Expanse $1\frac{1}{4}$ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

This beautiful species is closely allied to *M. guatemalteca*, Feld., from which it is readily distinguished by its much duller colour and blacker markings on both wings. It seems to be confined to Costa Rica, as I have no evidence of its occurrence in any other locality.

JOSIODES.

Josiodes, Felder, Reise Nov. Lep. t. 106. f. 28, Index, p. 5.

Josioides, Butler, Trans. Ent. Soc. 1877, p. 331.

Dr. Felder founded this genus upon an Amazonian species (*J. batesi*).

1. **Josiodes distincta.**

Josiodes distincta, H. Edwards, Papilio, iv. p. 14[1].

Hab. Mexico, State of Vera Cruz (*Schaus*)[1].

This species is quite unknown to me.

* The name of this genus is erroneously given as *Mesenochia* on the Plate.

2. Josiodes inversa.

Josiodes inversa, H. Edwards, Papilio, iv. p. 14[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*)[1].

"Closely allied to the preceding species, and possibly only the other sex" (*Edwards*).

PTYCHOGLENE.

Ptychoglene, Felder, Reise Nov. Lep. iv. t. 106. f. 26, Index, p. 8.

Dr. Felder founded this genus for the reception of a Mexican insect. Two species described by Walker, and placed by him in the genus *Lithosia*, evidently belong to this genus, and have been so placed by Mr. Butler in his paper on the Lithosiidæ (Trans. Ent. Soc. 1877, p. 325).

1. Ptychoglene erythrophora.

Ptychoglene erythrophora, Feld. Reise Nov. Lep. iv. t. 106. f. 26, Index, p. 8[1]; Butl. Trans. Ent. Soc. 1877, p. 346.

Hab. MEXICO[1], Ciudad in Durango 8100 feet (*Forrer*).

Two examples of this species were sent; they agree perfectly with Felder's figure.

2. Ptychoglene æqualis.

Lithosia æqualis, Walk. Cat. ii. p. 511[1].

Ptychoglene æqualis, Butl. Trans. Ent. Soc. 1877, p. 346[2].

Hab. MEXICO, Cordova (*Rümeli*); GUATEMALA[1 2], Cachil, El Jicaro, San Gerónimo (*Champion*).

The specimens sent agree well with Walker's type in the British Museum.

3. Ptychoglene sanguineola.

Lithosia sanguineola, Boisd. Lép. Guat. p. 95[1].

Ptychoglene sanguineola, Butl. Trans. Ent. Soc. 1877, p. 346[2].

Hab. MEXICO[1 2], Jalapa (*Höge*); GUATEMALA[1], Cachil (*Champion*).

This is the largest species in the genus.

4. Ptychoglene xylophila, sp. n. (Tab. XIII. fig. 1.)

Primaries bright red, broadly bordered with black from the apex to the inner margin; secondaries deep black, the costal margin streaked with red: head, antennæ, thorax, and abdomen deep black; tegulæ bright red; legs and palpi black. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Ventanas 2000 feet (*Forrer*); GUATEMALA, Cahabon, Cubilguitz, San Gerónimo (*Champion*); NICARAGUA, Chontales (*Belt*).

This species is allied to *P. æqualis*, Walk., from which it can at once be distinguished by the entirely different black margin to the primaries.

5. **Ptychoglene rubromarginata,** sp. n.

Primaries and secondaries uniform dull brownish black, the costal margin of the former narrowly bordered from the base to the apex with bright carmine: head, thorax, and abdomen brownish black; tegulæ carmine; antennæ and legs black. Expanse 1 inch.

Hab. Costa Rica (*Boucard, mus. D.*).

A small species very distinct from all that I am acquainted with.

INOPSIS.

Inopsis, Felder, Reise Nov. Lep. iv. t. 106. f. 6, Index, p. 5.

This is one of many genera figured by Felder without any description; it was founded upon a single species, *I. catoxantha,* from Mexico.

1. **Inopsis catoxantha.**

Inopsis catoxantha, Feld. Reise Nov. Lep. iv. t. 106. f. 6[1].

Hab. Mexico[1] (*Bilimek*).

I have not seen any specimens of this species.

ARDONEA.

Ardonea, Walker, Cat. ii. p. 482.

Walker founded *Ardonea* upon a Venezuelan insect, and afterwards placed another species belonging to a very different genus with it; the insect described by Walker is very common, and found throughout Tropical America.

1. **Ardonea morio.**

Ardonea morio, Walk. Cat. ii. p. 482[1]; Butl. Trans. Ent. Soc. 1877, p. 348[2].

Doracis coracina, Boisd. Lép. Guat. p. 96[3].

Hab. Mexico[2 3], State of Durango (*Forrer*), Cordova (*Rümeli, Boucard, mus. D.*); British Honduras, Rio Sarstoon (*Blancaneaux*); Guatemala, San Gerónimo, Perula (*Champion*); Honduras[3]; Costa Rica (*Van Patten, mus. D.*), San Francisco 4500 feet, Irazu 6000 to 7000 feet, Rio Sucio, Cache (*Rogers*); Panama, David, Volcan de Chiriqui (*Champion*).—Colombia, Bogota (*mus. D.*); Venezuela[1 2].

This species appears to be very common in Guatemala and Costa Rica, but from the State of Panama I have only seen two examples; it also occurs sparingly in Colombia and Venezuela. It varies considerably in colour and size: some specimens are dark bluish black, others are shaded with green, and others almost dull black.

LITHOSIA.

Lithosia, Fabricius, Ent. Syst. Suppl. p. 419 (1798).

This genus is very widely distributed over the globe, a large number of species having been described. In our country it is represented by about five species.

1. **Lithosia mexicana,** sp. n. (Tab. XIII. figg. 2 ♂, 3 ♀.)

Male. Primaries grey, the costal and inner margins narrowly edged with light yellow, a central narrow yellow band extends from the base to the outer margin near the apex, and a second yellow streak from the anal angle to about the middle of the wing; secondaries cream-colour, with the costal margin streaked with grey: head, thorax, and abdomen brownish grey; antennæ black; the tegulæ pale red; legs brown. The female differs from the male in its larger size and grey hind wings. Expanse, ♂ $\frac{3}{4}$, ♀ 1 inch.

Hab. MEXICO, Cordova (*Rümeli*), State of Durango (*Forrer*); GUATEMALA, San Gerónimo, Pantaleon 1700 feet (*Champion*).

In Mexico and Guatemala this little species appears to be pretty common; from the former country I have received a considerable number of specimens, but all in poor condition. The figures are from Guatemalan examples.

2. **Lithosia laudamia,** sp. n. (Tab. XIII. fig. 4, ♂.)

Male. Primaries brownish grey, with a narrow central streak and the inner margin pale yellow; secondaries yellow, broadly banded with greyish brown at the apex: head and front of the thorax pale yellow, the thorax pinkish yellow; abdomen yellow; antennæ black; legs brownish yellow. Expanse 1 inch.

Hab. GUATEMALA, Senahu (*Champion*); COSTA RICA, Irazu 6000 to 7000 feet, Cache (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

3. **Lithosia alba,** sp. n.

Primaries and secondaries uniform silky white, slightly tinged with pale yellow on the costal margin of the primaries: head, thorax, and abdomen brownish white; antennæ white from the base to about the middle, from the middle to the tip black; legs pale brown. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

Mr. Champion only obtained a single example of this little species, differing from all others that I have seen.

4. **Lithosia lutea,** sp. n.

Primaries yellowish white; secondaries pale brownish drab, the fringe rather lighter: head, thorax, and abdomen brownish yellow; antennæ black; the legs brown; the underside of both wings dark brown. Expanse 1 inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

Only two examples of this distinct species were obtained by Mr. Champion.

5. **Lithosia intermedia,** sp. n.

Primaries and secondaries uniform glossy cream-colour, slightly darker at the base of both wings: head, thorax, and abdomen dark cream-colour; antennæ black; legs brownish white; the underside of both wings pale brownish yellow. Expanse $1\frac{1}{10}$ inch.

Hab. MEXICO, Cordova (*Rümeli*).

This insect is allied to the preceding species, from which it is easily distinguished by its much paler and more glossy primaries, and the secondaries being cream-colour instead of brownish drab. Only a single example was sent.

ATOLMIS.

Atolmis, Hübner, Verz. bek. Schmett. p. 164.

Hübner places two species in this genus, but I think it very doubtful if the second of them should be included. Judging from his figure of it I do not consider it to belong to this genus: at the same time I have no specimens of the species before me; I therefore cannot be certain upon this point.

1. **Atolmis flavicollis**, sp. n. (Tab. XIII. fig. 6.)

Primaries uniform silky greyish black; secondaries dull black: head, collar, and anus light yellow; thorax and abdomen dull black; antennæ and legs black. Expanse 1½ inch.

Hab. MEXICO, Milpas in Durango 5000 feet (*Forrer*).

This species is most nearly allied to the European *A. rubricollis*, but differs from that insect in having the head yellow instead of black, and only the anal segments yellow instead of half the abdomen; in colour it is more grey.

CRAMBOMORPHA.

Crambomorpha, Felder, Reise Nov. Lep. iv. t. 106. ff. 9, 10, Index, p. 3.

This genus was founded by Dr. Felder for a Colombian species closely resembling the genus *Crambus*, although belonging to the family Lithosiidæ.

1. **Crambomorpha argentea.**

Crambomorpha argentea, Feld. Reise Nov. Lep. iv. t. 106. f. 10[1]; Butl. Trans. Ent. Soc. 1877, p. 357[2].

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota[1]; SOUTH-EAST BRAZIL (*mus. D.*), Espiritu Santo[2].

In our country this insect appears to be very scarce; from Rio Janeiro I have received a large number of specimens agreeing well with the examples before me from Guatemala.

2. **Crambomorpha umbrifera.**

Crambomorpha umbrifera, Feld. Reise Nov. Lep. iv. t. 106. f. 9[1].

Hab. PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).—COLOMBIA, Bogota[1].

The examples from our country agree fairly well with Dr. Felder's figure, but are rather smaller and not quite so much coloured. The species appears to be rare; I have only received two specimens.

3. **Crambomorpha sericea**, sp. n.

Primaries and secondaries uniform silky white, the inner margin of the primaries slightly shaded with yellow: head, thorax, and abdomen yellowish white; antennæ yellow. Expanse 1½ inch.

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, Cerro Zunil 4000 feet (*Champion*).

This species is closely allied to *C. argentea*, Felder, from which it is easily distin-

guished by the absence of the yellow costal margin of the primaries. The examples from Guatemala are considerably smaller than those from Mexico.

AREVA.

Areva, Walker, Cat. ii. p. 525.

This genus was founded by Walker for the reception of an insect from Venezuela; it is most nearly allied to the preceding genus. The species are by no means common in our country; but from South-east Brazil I have long series of several undescribed forms that seem to occur most abundantly, judging from the numbers received.

1. **Areva laticilia.**

Areva laticilia, Walk. Cat. ii. p. 526[1]; Butl. Trans. Ent. Soc. 1877, p. 358.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Las Mercedes 3000 feet, San Gerónimo, Cubilguitz (*Champion*); COSTA RICA, Irazu (*Rogers*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).—VENEZUELA [1].

This species appears to be very widely distributed, but by no means common. It is frequently to be found at Bugaba in the early morning, sitting upon the leaves of growing rice cultivated in the forest-clearings of the "tierra caliente" (*Champion*).

2. **Areva leptalina**, sp. n. (Tab. XIII. fig. 5.)

Primaries dusky white, shaded along the inner margin and across the middle with pale brown; secondaries brownish white, shaded with brown on the outer margin: head and thorax brown; abdomen wanting; legs brownish white. Expanse $1\frac{1}{4}$ inch.

Hab. COSTA RICA, Cache (*Rogers*).

A single specimen, in poor condition. It is a very distinct species, allied to *A laticilia*, Walker.

3. **Areva marginata**, sp. n.

Primaries silky white, the inner margin from the base to the anal angle streaked with brownish black; secondaries dusky white, almost white at the base, but darker in the female than they are in the male: head, thorax, and abdomen brownish black, the anal tufts of the male black; antennæ and legs brownish black. Expanse, ♂ 1 inch, ♀ $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Cubilguitz, Chiacam, Cerro Zunil (*Champion*); COSTA RICA, Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*).

This species resembles *Crambomorpha umbrifera*, Feld.

EURYLOMIA.

Eurylomia, Felder, Reise Nov. Lep. iv. t. 105. f. 26, Index, p. 5.

Eurylomia was founded by Dr. Felder for the reception of a species from Mexico; it seems to be most nearly allied to the preceding genus, but very distinct.

1. **Eurylomia curvinervis.**

Eurylomia curvinervis, Feld. Reise Nov. Lep. iv. t. 105. f. 26, Index, p. 5 [1].

Lithosia cordula, Boisd. Lép. Guat. p. 95 [2].

Hab. Mexico (*Sallé*) [1 2], Jalapa (*Höge*), Cordova (*Rümeli*); Honduras [2].

This species appears to be peculiar to Honduras and Mexico. Through the kindness of Mons. C. Oberthür I have been enabled to examine the type of Boisduval's *Lithosia cordula*, and find that it agrees in every way with Felder's species.

2. **Eurylomia ochreata,** sp. n. (Tab. XIII. fig. 7.)

Primaries and secondaries uniform ochreous yellow, the costal margin of the primaries narrowly bordered with brownish black, the apex and anal angle broadly bordered with glossy brownish black; secondaries bordered with brownish black, broadly at the apex, but quite narrowly along the outer margin to the anal angle: head, thorax, and abdomen dark chrome-yellow; antennæ and legs black. Expanse 2 inches.

Hab. British Honduras, Rio Sarstoon (*Blancaneaux*).

A single female specimen of this species was sent; I at first thought that it might be the female of *E. curvinervis*, Feld., but I have since received the female of that species and find that it agrees in all respects with the male, except that the primaries are straight, as in the species now described.

DEIOPEIA.

Deiopeia, Stephens, Ill. Brit. Ent. Haust. ii. p. 92.

This genus now has eight or ten very widely distributed species placed in it; in our country three species occur—one extremely common, one of which I have only seen a few examples, and one only known to me as occurring in our country by a single example from British Honduras.

1. **Deiopeia ornatrix.**

Noctua ornatrix, Linn. Syst. Nat. p. 839; Drury, Ill. Nat. Hist. i. t. 24. f. 2.

Bombyx ornatrix, Fabr. Syst. Ent. p. 587; Sp. In. ii. p. 203; Mant. Ins. ii. p. 131.

Phalæna ornatrix, Cram. Papil. Exot. ii. t. 166. f. C, D.

Utethesia ornatrix, Hübn. Verz. bek. Schmett. p. 168; Samml. exot. Schmett. ii. t. 181; Stretch, Zygænidæ & Bombycidæ of North America, p. 58, t. 2. f. 18 [1].

Deiopeia ornatrix, Westw. ed. Drury, i. p. 46, t. 24. f. 2; Walk. Cat. ii. p. 567; Grote, Proc. Ent. Soc. Phil. v. p. 234; Butl. Trans. Ent. Soc. 1877, p. 361.

Deiopeia pura, Butl. Trans. Ent. Soc. 1877, p. 360 [2].

Hab. North America.—Mexico, Mazatlan [1], Presidio, Milpas 5900 feet (*Forrer*), Jalapa (*Höge*), Valladolid in Yucatan (*Gaumer*); British Honduras, Rio Sarstoon (*Blancaneaux*); Guatemala [2], San Gerónimo, Zapote, Dueñas, Pantaleon 1700 feet (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica, Cartago (*Van Patten, mus. D.*), San Francisco 4500 feet, Irazu 6000 to 7000 feet, Cache (*Rogers*); Panama, Bugaba, Caldera, Volcan de Chiriqui (*Champion, Arcé, mus. D.*).—Antilles, Dominica (*Angas,*

mus. D.); COLOMBIA; ECUADOR, Sarayacu; GALAPAGOS ISLANDS [2]; BRITISH GUIANA, Demerara, Roraima; SOUTH-EAST BRAZIL [2], Rio Janeiro; ARGENTINE REPUBLIC, Tucuman; CHILI.

This species has an uninterrupted range from the southern part of North America to the Argentine Republic. I have had many hundreds of specimens of this very common insect in my possession. It varies very considerably both in the colour of the primaries and the width of the black margins of the secondaries; in fact, in no single instance, from any locality, do I find a constant form. *D. pura*, Butler, cannot, in my opinion, be separated from the others. I have before me a very large series of specimens from our country, which show variations in colour of the primaries from almost pure white to bright red; in a specimen from Chiriqui, in my own collection, the veins of the primaries are bright red on a rich cream ground-colour, giving the insect a very distinct appearance. In South America the species is subject to the same variation.

Common in open grassy places from the sea-level to an altitude of about 5000 feet (*Champion*).

2. Deiopeia bella.

Tinea bella, Linn. Syst. Nat. p. 885.
Noctua bella, Drury, Exot. In. i. p. 51, t. 24. f. 3.
Bombyx bella, Fabr. Syst. Ent. p. 585.
Phalæna bella, Cram. Pap. Exot. ii. t. 109. f. C, D.
Utetheisa bella, Hübn. Verz. bek. Schmett. p. 168; Pack. Proc. Ent. Soc. Phil. p. 105; Stretch, Zygænidæ & Bombycidæ of North America, p. 56, t. 2. f. 15.
Deiopeia bella, Walk. Cat. ii. p. 568 [1]; Butl. Trans. Ent. Soc. 1877, p. 361 [2].

Hab. NORTH AMERICA, Nova Scotia [1], United States [1 2].—MEXICO, Valladolid in Yucatan (*Gaumer*).—COLOMBIA (*Birchall, mus. D.*).

The Mexican examples of this species are pale in colour, but in other respects they do not differ from North-American specimens before me.

3. Deiopeia speciosa.

Deiopeia speciosa, Walk. Cat. ii. p. 568 [1]; Clem. Syn. Lep. N. Am. App. p. 314.
Utetheisa speciosa, Stretch, Zygænidæ & Bombycidæ of North America, p. 57, t. 2. f. 16 [2].

Hab. NORTH AMERICA, Atlantic States [2].—BRITISH HONDURAS, Corosal (*Roe, mus. D.*).—HAITI; CUBA; JAMAICA [1] (*mus. D.*).

The single specimen before me from British Honduras agrees well in all respects with those from the Antilles.

MÆNOLENEURA.

Mænoleneura, Butler, Trans. Ent. Soc. 1878, p. 56.

Mr. Butler founded this genus upon a species discovered on the Amazons by Dr. Trail. The specimens from our country agree fairly well with the types. I believe *Mænole-*

neura to be identical with Möschler's genus *Tricypha*; if this should prove to be the case, the latter name will take precedence, the description having been published in the Verh. k.-k. zool.-bot. Ges. Wien, 1877.

1. Mænoleneura anomala.

Mænoleneura anomala, Butl. Trans. Ent. Soc. 1878, p. 57[1].

Hab. Panama, Volcan de Chiriqui 2000 to 3000 feet, Bugaba 800 to 1500 feet (*Champion*).—Amazons[1].

Only two specimens of this species were obtained; I believe it to be identical with that described by Mr. Butler from the Amazons.

EUBAPHE.

Eubaphe, Hübner, Zutr. exot. Schmett. ii. p. 20. no. 150.

This genus now has six or seven species placed in it. In our country it is well represented by three species.

1. Eubaphe brevicornis.

Crocota brevicornis, Walk. Cat. ii. p. 536[1].

Eubaphe brevicornis, Butl. Trans. Ent. Soc. 1877, p. 367.

Hab. North America, United States[1].—Mexico, State of Durango (*Forrer*), Cordova (*Rümeli*).

This species appears to be pretty common near Cordova; but I have only seen a few specimens from elsewhere in Mexico.

2. Eubaphe rogersi, sp. n.

Primaries uniform brownish chrome-yellow, thickly speckled with very minute brown scales; secondaries red, a large black spot at the anal angle, beyond which and nearer the apex a small black dot; the margin narrowly bordered with black: head, antennæ, and palpi black; thorax brownish yellow; abdomen red; legs black; the underside of the thorax and abdomen black. Expanse $1\frac{1}{4}$ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

This species is allied to *E. opella*, Grote.

3. Eubaphe marginata, sp. n. (Tab. XIII. fig. 8.)

Primaries reddish brown, shaded with darker brown bands, which are in some specimens almost invisible; secondaries yellow slightly tinted with pink, a small round black spot at the end of the cell, the outer margin from the apex to the anal angle broadly bordered with black: head, thorax, and abdomen reddish brown; antennæ and palpi black; legs reddish brown. Expanse $\frac{3}{4}$ inch.

Hab. Guatemala, Dueñas (*Champion*).

THYONE.

Thyone, Walker, Cat. ii. p. 552.

This genus was founded by Walker upon a single species from Honduras.

1. Thyone simplex.

Thyone simplex, Walk. Cat. ii. p. 553[1].

Hab. HONDURAS[1].

This species is unknown to me.

EUDULE.

Eudule, Hübner, Zutr. exot. Schmett. ii. p. 14. no. 127.

This genus was founded by Hübner for the reception of a South-American insect.

1. Eudule invaria.

Ameria invaria, Walk. Cat. ii. p. 555[1].

Eudule invaria, Butl. Trans. Ent. Soc. 1877, p. 368.

Hab. MEXICO, Jalapa (*Höge*), Cordova (*Rümeli*); BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*); GUATEMALA, Zapote, Senahu, Cubilguitz, Panima in Vera Paz (*Champion*); COSTA RICA, Irazu 6000 to 7000 feet, Cache (*Rogers*), Cartago (*Van Patten, mus. D.*); PANAMA, Volcan de Chiriqui (*Arcé, mus. D.*), Bugaba (*Champion*), Emperador (*J. J. Walker*).—COLOMBIA (*mus. D.*); VENEZUELA[1].

This species is found over a very wide range of country. It varies to some slight extent; in some of the specimens before me the colour is much more yellow than in others, and in some examples the outer margins of the secondaries are narrowly bordered with black. Judging from the number of specimens I have seen, it must be a very common insect throughout its entire range.

2. Eudule conformis. (Tab. XIII. fig. 9.)

Ameria conformis, Walk. Cat. ii. p. 555[1].

Eudule conformis, Butl. Trans. Ent. Soc. 1877, p. 368.

Hab. MEXICO, Presidio, Ventanas 2000 feet (*Forrer*), Jalapa (*Höge*); GUATEMALA, Calderas, San Gerónimo, Panzos (*Champion*); PANAMA, Emperador (*J. J. Walker*).

In Guatemala this species is pretty common; but generally it does not appear to occur much further south. The only specimens I have seen from the State of Panama were taken by Mr. Walker on the Isthmus.

3. Eudule nigricosta.

Ameria (*Eudule*) *nigricosta*, H. Edwards, Papilio, iv. p. 14[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*)[1].

Mr. H. Edwards states that this insect is close to *E. invaria*, Walker. Examples before me of the latter from Cordova and Jalapa belong, without doubt, to Walker's species.

4. **Eudule tripunctata,** sp. n. (Tab. XIII. fig. 10.)

Primaries and secondaries uniform deep chrome-yellow, with rather a silky gloss in certain lights; three small spots on the costal margin of the primaries, the apex, and a central streak from the outer margin to the end of the cell greenish black: head, thorax, and abdomen chrome-yellow; palpi black, very minute; antennæ black; legs brownish black. Expanse 1 inch.

Hab. MEXICO, Jalapa (*Höge*).

A very pretty little species, allied to *E. conformis*, Walk., from which it is easily distinguished by the black markings of the primaries.

5. **Eudule lineata,** sp. n. (Tab. XIII. fig. 11.)

Primaries and secondaries chrome-yellow, slightly hyaline, the nerves on the primaries black, in some specimens more so than in others: head, thorax, and abdomen yellowish brown; palpi and antennæ black; legs brown. Expanse $1\frac{1}{10}$ inch.

Hab. GUATEMALA, Calderas 7000 feet, Quiche Mountains 7000 to 9000 feet, Totoni capam 8500 to 10,500 feet (*Champion*).

This species varies considerably in colour. Some of the specimens from Totonicapam are very pale, almost dirty white, and taken by themselves would appear to belong to a different species; but in the series before me I have specimens showing every gradation of colour, but in all other respects agreeing well with the typical form. In Guatemala the species seems to be fairly common; but I have not seen specimens from any other locality.

6. **Eudule unicolor.**

Eudule unicolor, Möschler, Verh. k.-k. zool.-bot. Ges. Wien, 1877, p. 660 [1].

Hab. PANAMA, Volcan de Chiriqui [1].—GUIANA, Surinam [1].

This species is unknown to me.

LEPTIDULE *.

Leptidule, Butl. Trans. Ent. Soc. 1877, p. 368, t. 8. f. 11.

Mr. Butler founded this genus upon *Ameria integra*, Walk., from Santa Marta, Colombia. In our country two species occur.

1. **Leptidule sordida.**

Leptidule sordida, Butl. Trans. Ent. Soc. 1877, p. 369 [1].

Hab. PANAMA, Caldera in Chiriqui 1200 feet, Bugaba 800 to 1500 feet (*Champion*). —COLOMBIA, Santa Marta [1].

The specimens received from the State of Panama agree well with Mr. Butler's type in the British Museum.

* The name of this genus is erroneously given as *Lepidule* on the Plate.

2. **Leptidule medea,** sp. n. (Tab. XIII. fig. 12.)

Primaries pale ochreous, with a large dark central spot of the same colour; secondaries yellowish hyaline, darkest round the outer margins: head, thorax, abdomen, and legs pale yellow; antennæ black; palpi yellow, very minute. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Panzos, Teleman (*Champion*); COSTA RICA, Irazu (*Rogers*).

The specimen from Costa Rica is rather smaller than those from Guatemala, the size of the dark-coloured spot on the primaries being considerably less.

AUTOCERAS.

Melania, Wallengren, Wien. ent. Monatschr. xii. p. 146 (1863) (nom. præocc.).
Autoceras, Felder, Reise Nov. Lep., Index, p. 2.

1. **Autoceras (?) phelina,** sp. n. (*Melania phelina*, Tab. XIII. fig. 13.)

Primaries creamy white, thickly covered with black dots, one row along the costal margin, one in the middle, and a third along the inner margin, the fringe from the apex to the anal angle pale yellow; secondaries pale yellow, a black spot on the costal margin close to the apex: head, thorax, and abdomen yellowish white; antennæ and legs black. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species closely resembles *Autoceras punctigera*, Felder. I do not feel quite sure that it belongs to that genus, not having any specimens for comparison. Only a single example was obtained by Mr. Champion.

NOLA.

Nola, Leach in Samouelle, Ent. Comp. p. 254 (1819).

The species of this genus are very widely distributed over the globe, but they are difficult to obtain. I have very little doubt that when sufficient material has been received, it will be possible to arrange them more satisfactorily than at present.

1. **Nola patella,** sp. n. (Tab. XIII. fig. 14.)

Primaries greyish white, shaded with brown, and thickly spotted with dark brown patches and markings of a very uneven character, more easily figured than described; secondaries brownish white, the margin narrowly bordered with brown near the apex: head, thorax, and abdomen greyish white; antennæ brown. Expanse $\frac{3}{4}$ inch.

Hab. MEXICO, State of Durango (*Forrer*), Jalapa (*Höge*), Cordova (*Rümeli*).

This insect seems to be rather common in Mexico. It varies slightly in the ground-colour of the primaries, some specimens being much browner than others.

2. **Nola philodina,** sp. n. (Tab. XIII. fig. 15.)

Primaries brownish white, thickly banded with brown spots and indistinct lines; secondaries creamy white head, thorax, and abdomen brownish white; antennæ brown. Expanse $\frac{3}{4}$ inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*).

Only two specimens of this species were obtained. It is allied to *N. patella*, but quite distinct.

3. **Nola ophrydina**, sp. n. (Tab. XIII. fig. 16.)

Primaries creamy white, irregularly spotted and dotted with black; secondaries greyish white, with the fringe white: head, thorax, and abdomen greyish white; antennæ dark brown; legs greyish brown. Expanse $\frac{3}{4}$ inch.

Hab. Mexico, Cordova (*Rümeli*); Guatemala, San Gerónimo, Calderas (*Champion*).

The examples from Guatemala are rather whiter than the one from Mexico, but in all other respects they are alike.

4. **Nola minuta**, sp. n. (Tab. XIII. fig. 17.)

Primaries silky white, crossed at the middle by a pale brown band, which is bordered on each side by a narrow zigzag black line, the base of the wing pale brown; secondaries uniform greyish white: head, thorax, and abdomen white; antennæ and legs dark brown. Expanse $\frac{1}{2}$ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

Only two specimens of this pretty little species were obtained.

5. **Nola melicerta**, sp. n. (Tab. VIII. fig. 18.)

Primaries silvery white, with three black V-shaped marks along the costal margin, the first close to the base and quite small, the second about the middle, large, and extending about one third the width of the wing, the third near the apex, quite small, a large patch of pale brown near the anal angle extending along the outer margin, above which are two small black dots, a brown patch, and several indistinct black lines; secondaries silky white, rather dusky round the outer margins: head and front of the thorax white, thorax and abdomen brownish white; antennæ and legs brown; on the underside the primaries are brown, with two whitish spots near the apex. Expanse $\frac{3}{4}$ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

This species is very distinct from any other known to me.

6. **Nola intermedia**, sp. n.

Primaries brownish white, crossed from the costal to the inner margin by two waved brown bands; secondaries uniform brownish white: head and thorax white; abdomen and antennæ brown; legs brownish white. Expanse 1 inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

This species is allied to *N. melicerta*.

7. **Nola patina**, sp. n. (Tab. XIII. fig. 19.)

Primaries brownish white, with a dark brown square-shaped spot on the costal margin about the middle, and also a small streak of dark brown close to the base, between the dark spot and the outer margin the wing is crossed by several indistinct brownish-white lines; secondaries uniform greyish white: head, thorax, and abdomen white; antennæ brown; legs brownish white. Expanse $\frac{3}{4}$ inch.

Hab. Costa Rica, Rio Sucio (*Rogers*).

Only a single example of this insect was sent; it is allied to *N. intermedia*.

8. **Nola terulosa,** sp. n. (Tab. XIII. fig. 21.)

Primaries silky greyish white, shaded with brown from the base to about the middle, beyond which several waved narrow black lines cross the wing from the costal to the inner margin; secondaries uniform white, slightly dusky near the apex: head, thorax, and abdomen white; antennæ pale brown; legs brownish white. Expanse $\frac{3}{4}$ inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—SOUTH-EAST BRAZIL, Rio Janeiro (*mus. D.*).

In our country this species seems to be very rare, but from Rio Janeiro I have received a fine series of specimens.

9. **Nola vulgaris,** sp. n. (Tab. XIII. fig. 22.)

Primaries very pale brown, with several indistinct darker brown bands and spots crossing from the costa to the inner margin; secondaries dusky white, slightly darker round the outer margin: head, thorax, and abdomen pale brown; antennæ darker brown; legs almost white. Expanse $\frac{3}{4}$ inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*).

This species seems to be rare; only two specimens have been received by me.

ÆMENE.

Æmene, Walker, Cat. ii. p. 541.

This genus was founded by Walker for a species from Ceylon; several others have subsequently been described from various localities.

1. **Æmene plumatella,** sp. n. (Tab. XIII. fig. 20.)

Primaries greyish white, crossed by two broken bands of dark brown, a dark brown spot close to the base, and a submarginal row of very minute black dots from the apex to the anal angle; secondaries uniform greyish white: head and thorax white; abdomen dark grey; antennæ pale brown; legs brown. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Totonicapam 8500 to 10,000 feet, Quiche Mountains 7000 to 9000 feet (*Champion*).

Of this species Mr. Champion only obtained a single example in each locality.

DELPHYRE.

Delphyre, Walker, Cat. ii. p. 537.

This species was founded by Walker for a species from Honduras. I have not as yet received any specimens.

1. **Delphyre hebes.**

Delphyre hebes, Walk. Cat. ii. p. 537 [1]; Butl. Trans. Ent. Soc. 1877, p. 371.

Hab. HONDURAS [1].

PTEROODES.

Pteroodes, Butler, Trans. Ent. Soc. 1877, p. 376, t. 8. f. 20.

Mr. Butler has founded this genus upon a curious long-winged insect, in form much resembling the genus *Heliconius* of the Rhopalocera, described by Walker as *Lithosia longipennis*; but with *Lithosia* it has nothing in common.

1. **Pteroodes longipennis.**

Lithosia longipennis, Walk. Cat. ii. p. 510[1]; Butl. Trans. Ent. Soc. 1877, p. 376.

Hab. MEXICO[1].

The only specimen of this species known to me is the type in the British Museum.

Fam. MELAMERIDÆ.

ORICIA.

Oricia, Walker, Cat. ii. p. 476.

This genus was founded by Walker for the reception of an insect from Honduras, a species that seems to be peculiar to that country and Guatemala.

1. **Oricia truncata.** (Tab. XIII. fig. 23.)

Oricia truncata, Walk. Cat. ii. p. 476[1].

Hab. HONDURAS (*Dyson*)[1]; GUATEMALA[1], Cubilguitz 1000 feet, Teleman in the Polochic valley (*Champion*).

This pretty species was captured in large numbers at Cubilguitz, sparingly at Teleman; from no other locality have I seen a specimen.

Mr. Champion only met with it in the forest-region of the low country.

HIERA, gen. nov.

Allied to *Oricia*. Head small; palpi very small; antennæ long, slender, and slightly pectinated. Primaries rather long and narrow, more rounded at the apex than in *Oricia*; secondaries broad and rounded from the apex to the anal angle. Legs smooth, rather short and slender. Abdomen rather short and stout.

1. **Hiera gyge,** sp. n. (Tab. XIV. fig. 10.)

Primaries uniform chrome-yellow, the costal margin narrowly streaked with brownish black, the apical third pale brownish black; secondaries chrome-yellow, slightly darker near the base, the outer margin from the apex to the anal angle broadly bordered with brownish-black: head, thorax, and abdomen chrome-yellow; antennæ and legs black. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

One example.

TERNA.

Terna, Walker, Cat. xxxi. p. 267.

Walker included two species in this genus, one of these being from our country, the other from the Amazons.

1. Terna ampla.

Terna ampla, Walk. Cat. xxxi. p. 267[1].

Hab. MEXICO, Orizaba (*Botteri*)[1].

The type is the only specimen known to me.

2. Terna zonata.

Terna zonata, Feld. Reise Nov. Lep. iv. t. 104. f. 13, Index, p. 9[1].

Hab. MEXICO (*Bilimek*), Orizaba (*Hedemann*)[1].

I have not received any specimens of this species.

VIRBIA.

Virbia, Walker, Cat. ii. p. 470.

This genus was founded by Walker for a few species from Central and South America; it now has about six species placed in it, all of which are very similar in colour.

1. Virbia luteilinea.

Virbia luteilinea, Walk. Cat. ii. p. 471[1].

Hab. MEXICO (*Hartweg*)[1]; GUATEMALA, Cahabon (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).—COLOMBIA (*mus. D.*).

This appears to be a very scarce species. I have only received a few examples, mostly in poor condition.

2. Virbia mentiens.

Virbia mentiens, Walk. Cat. ii. p. 471[1].

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*).—VENEZUELA (*Dyson*)[1].

The Costa-Rican examples agree well with the Venezuelan type in the British Museum.

3. Virbia medarda.

Phalæna medarda, Cram. Pap. Exot. iv. t. 345. f. F[1].

Phæochlæna medarda, Hübn. Verz. bek. Schmett. p. 176; Walk. Cat. ii. p. 470[2].

Virbia medarda, Butl. Trans. Ent. Soc. 1878, p. 62.

Hab. GUATEMALA, Panzos (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*), near the city (*J. J. Walker*).—VENEZUELA (*Dyson*)[2]; GUIANA, Surinam[1], Roraima (*Whitely, mus. D.*).

This is the largest species of the genus; it occurs sparingly over a wide range of country. The example before me from Roraima is rather darker in colour than those from our country.

4. **Virbia minuta.**

Terna minuta, Feld. Reise Nov. Lep. iv. t. 105. f. 3, Index, p. 9[1].

Hab. MEXICO, Cordova (*Rümeli*).—AMAZONS (*Bates*)[1].

The Mexican specimens are larger than Dr. Felder's figure, and the primaries are of a lighter brown colour; but in all other respects they are similar. I do not agree with Mr. Stretch in considering this insect to be identical with *V. mentiens*, Walk., of which I have a long series of specimens before me from Costa Rica.

5. **Virbia thersites,** sp. n. (Tab. XIII. fig. 24.)

Primaries pale brown, with a cream-coloured elongated spot at the base of each wing, and a round spot of the same colour close to the inner margin beyond the middle, but nearer the apex; secondaries light orange-yellow, broadly bordered with black from the apex to the anal angle, the costal margin narrowly streaked with black: head, antennæ, palpi, and thorax dark brown; collar bright red; abdomen black, orange-yellow at the sides; legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Bugaba (*Champion*).

This species appears to be very distinct, its nearest ally being *V. medarda*, Cram.

SAGARIS.

Sagaris, Walker, Cat. ii. p. 313.

This genus was founded for the reception of a species captured by Mr. Bates on the Amazons.

1. **Sagaris horæ,** sp. n. (Tab. XIII. fig. 25.)

Primaries and secondaries uniform deep black glossed with dark blue, the primaries crossed from the middle of the costal margin to the anal angle by a bright chrome-yellow band: head, thorax, antennæ, and palpi black; abdomen black glossed with dark blue; legs black. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Ribbé, mus. Staudinger*).

I have only received two examples of this pretty species.

SCEDROS.

Scedros, Walker, Cat. ii. p. 316.

This is another genus founded by Walker for the reception of a Brazilian insect discovered by Mr. Bates. I include it in our list upon the authority of Boisduval, who redescribed Walker's species as *Milodora agis*.

1. **Scedros dilatata.**

Scedros (*Josia*) *dilatata*, Walk. Cat. ii. p. 316[1].

Milodora agis, Boisd. Lép. Guat. p. 85[2].

Hab. NICARAGUA[2].—ECUADOR (*Buckley, mus. D.*).; BRAZIL (*Bates*)[1].

Upon comparing Boisduval's type with that of Walker, I find they are identical.

I have never seen any examples from our country; from Ecuador I possess a good series of specimens agreeing well with Walker's type, which most likely came from the Amazons region, it having been collected by Mr. Bates.

PHALCIDONA.

Phalcidona, Walker, Cat. xxxi. p. 135 (descr. nulla).

Two species (one of which is recorded from our country and Colombia, the other inhabiting the Amazons region) were placed in this genus by Walker.

1. **Phalcidona vespertina.**

Phalcidona vespertina, Walk. Cat. xxxi. p. 135 [1].

Xanthyris osera, Boisd. Lép. Guat. p. 93 [2].

Hab. ? MEXICO [2]; ? HONDURAS [2].—COLOMBIA, Bogota [1].

Through the kindness of M. C. Oberthür, I have been enabled to compare the type of Boisduval's species with that of Walker; I find they agree in all respects. The occurrence of this species in our country is very doubtful, my only authority for including it being Boisduval's, which most certainly requires confirmation.

ACTEA.

Actea, Walker, Cat. ii. p. 307.

This genus contains but few species, all of which are peculiar to Tropical South America. One species only (*A. monilis*, Hübn.), from the Amazons, was placed in it by Walker.

1. **Actea (?) draconis**, sp. n. (Tab. XIV. fig. 6.)

Primaries brownish black, the veins rather lighter in colour, a wide yellow band crossing the wing from the costal margin to near the apex; secondaries bright carmine, very broadly bordered with black on the inner and outer margins, the costal margin and apex narrowly edged with black: head, thorax, and abdomen black streaked with yellow; the underside of the abdomen and legs dusky white; antennæ and palpi black. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, San Juan (*Ribbe, mus. Staudinger*).

I have placed this species in the genus *Actea* with considerable doubt, only having a single example, belonging to Dr. Staudinger, before me.

EPHIALTIAS.

Ephialtias, Hübner, Verz. bek. Schmett. p. 176.

This genus now has a large number of species placed in it, many of them being black with yellow bands across the primaries; the different species are very closely allied.

1. Ephialtias pseudena.

Retila pseudena, Boisd. Lép. Guat. p. 94[1].
Ephialtias pseudena?, Butl. Trans. Ent. Soc. 1878, p. 59[2].

Hab. Mexico[1]; Honduras[1]; Panama, Bugaba 800 to 1500 feet (*Champion*), Emperador (*J. J. Walker*).—Colombia (*mus. D*); Amazons[2].

Through the kindness of M. C. Oberthür I have been enabled to compare Boisduval's type with my long series of specimens. *E. pseudena* is a very common insect at Bugaba, but is apparently rare elsewhere.

2. Ephialtias cænea.

Phalæna Noctua cænea, Drury, Ill. Nat. Hist. iii. p. 27, t. 21. f. 3.
Epidesma cænea, Hübn. Verz. bek. Schmett. p. 177.
Callimorpha cænea, Westw. ed. Drury, iii. t. 21. f. 3.
Laurion cœnia, Walk. Cat. ii. p. 426.

Hab. Costa Rica, Irazu (*Rogers*); Panama, Volcan de Chiriqui (*Ribbe*).—Ecuador (*mus. D.*).

Of this species I have only seen two examples from our country.

3. Ephialtias hyperia.

Phintia (*Josia*) *hyperia*, Walk. Cat. ii. p. 306[1].

Hab. Honduras, San Pedro (*G. M. Whitely, mus. D.*).—Amazons, Parà (*Bates*[1]).

My specimen from Honduras agrees perfectly with Walker's type.

4. Ephialtias lindigii.

Phelloe lindigii, Feld. Reise Nov. Lep. t. 105. f. 19, Index, p. 8[1].

Hab. Panama, Volcan de Chiriqui (*Ribbe*).—Colombia, Bogota[1].

A single example of this fine species was received from Chiriqui.

5. Ephialtias enoides. (Tab. XIV. fig. 1.)

Retila enoides, Boisd. Lép. Guat. p. 94[1].

Hab. Mexico[1]; Honduras[1].

I am indebted to M. C. Oberthür for the loan of the type of this species to figure; I have not seen any other specimens.

6. Ephialtias —— ?

Hab. Panama, Volcan de Chiriqui (*Champion*).

One example in too poor a condition to describe. The primaries are dull black with a small round central yellow spot.

7. **Ephialtias ilaire,** sp. n. (Tab. XIII. fig. 26.)

Primaries black, shot with dark blue near the base, and crossed beyond the middle from the costal margin to near the apex by a wide orange-yellow band; secondaries glossy dark blue, almost black near the apex: head, antennæ, and palpi black; thorax and abdomen glossy blue, the abdomen dusky white on the underside; legs bluish black; antennæ of the male deeply pectinated, of the female simple. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Ribbe and Trötsch, mus. Staudinger*).

Mr. Champion informs me that he met with this species in abundance in the forests near the banks of the streams; it varies considerably in size, some specimens being much larger than others, but as a rule the male is generally the smallest. The figure is taken from a female specimen obtained by Mr. Champion.

8. **Ephialtias ariaca,** sp. n. (Tab. XIII. fig. 27.)

Primaries and secondaries uniform dull black, the primaries crossed from the middle of the costal margin to the anal angle by a pale yellow band; secondaries with a narrow central transverse yellow band: antennæ, palpi, head, thorax, abdomen, and legs black. Expanse 1 inch.

Hab. MEXICO, Valladolid in Yucatan (*Gaumer*).

Two worn examples.

PHALCIDON.

Phalcidon, Walker, Cat. ii. p. 301.

I include this genus in our fauna upon the authority of the specimen in the British Museum; Walker included three species in it, one from Honduras and two from South America.

1. **Phalcidon integra.**

Phalcidon (*Josia*) *integra,* Walk. Cat. ii. p. 301 [1].

Hab. HONDURAS (*Dyson* [1]).

Walker states that this insect may prove to be a variety of *P. megæra.*

DARNA.

Darna, Walker, Cat. xxxi. p. 184.

This genus was founded by Walker for the reception of an insect from Bogota; in our country it is represented by a very fine new species.

1. **Darna splendens,** sp. n. (Tab. XIV. fig. 2.)

Primaries black, glossed with bright blue at the base, a wide semihyaline yellow band crossing from the costal margin to near the anal angle, where it is much the widest and darkest in colour; secondaries rich glossy blue, with a large triangular yellow patch near the apex: head, thorax, antennæ, and palpi black; thorax striped with greenish blue; abdomen glossy greenish blue; legs black. Expanse $1\frac{1}{2}$ inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*).

One example.

HAGNAGORA, gen. nov.

Allied to *Darna*; the primaries shorter and broader, and also more pointed at the apex, the costal margin almost straight; secondaries longer and less rounded at the anal angle: head small, clothed with short hairs; palpi stout, but very short; antennæ smooth; thorax rather broad; abdomen smooth, rather slender, and not extending beyond the hind wings; legs slender.

The above description has been drawn up to receive one species from Central America.

1. **Hagnagora catagrammina,** sp. n. (Tab. XIV. figg. 3, 4.)

Primaries dark brown, slightly reddish, crossed beyond the middle from the costal margin to the anal angle by a wide orange-yellow band; secondaries dark brown, with a wide central brilliant blue streak extending from the base to beyond the middle; underside of the primaries the same as above, but slightly paler in colour, of the secondaries with the basal half bright glossy blue, broken into spots by the nervures: head, palpi, and antennæ dark brown; thorax and abdomen reddish brown; underside of the head and thorax dusky yellow; legs pale brown. Expanse $1\frac{1}{2}$ inch.

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, Volcan de Chiriqui (*Ribbe, Trötsch, mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).

This beautiful insect is allied to two species I have recently described from Ecuador.

JOSIA.

Josia, Hübner, Verz. bek. Schmett. p. 176; Walker. Cat. ii. p. 288.

This Neotropical genus now has a large number of species placed in it; in our country it is well represented by about six species.

1. **Josia fulvia.**

Phalæna Noctua fulvia, Linn. Syst. Nat. p. 836; Mus. Lud. Ulr. p. 383; Fabr. Sp. Ins. ii. p. 217; Mant. Ins. ii. p. 142; Seba, Locup. Rerum Nat. Thesaurus, iv. t. 31. figs. 11 & 12, and t. 43. figs. 27, 28; Clerck, Icon. t. 55. f. 6; Cram. Pap. Exot. iii. t. 251. f. F [1].

Josia fulvia, Hübn. Zutr. Samml. exot. Schmett. ii. p. 19. no. 145, figs. 289, 290; Walk. Cat. ii. p. 291 [2].

Hab. MEXICO [2], Cordova (*Rümeli*), Jalapa (*Höge*), near the city (*Boucard, mus. D.*); BRITISH HONDURAS (*Dyson* [2]), Corosal (*Roe, mus. D.*), R. Sarstoon (*Blancaneaux*).—VENEZUELA (*Dyson* [2]); GUIANA, Surinam [1 2].

All the Central-American specimens I have seen as yet of this species are from Mexico and British Honduras.

2. **Josia ligata.**

Josia ligata, Walk. Cat. xxxi. p. 131 [1].

Hab. GUATEMALA, Panima, San Gerónimo (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).—COLOMBIA, Bogota [1].

This species was captured in large numbers at San Gerónimo; it is very closely allied to *J. fulvia.*

3. **Josia cruciata.**

Josia cruciata, Butl. Ann. & Mag. Nat. Hist. ser. 4, xv. p. 340[1].

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*); COSTA RICA (*Boucard, mus. D.*); PANAMA, Veragua[1], Volcan de Chiriqui (*Arcé, mus. D.*).

This species can easily be distinguished from all others of the genus occurring in our country by the yellow band across the base of the abdomen, its nearest ally being *J. ligata*, Walk.

4. **Josia frigida**, sp. n.

Male. Primaries black, with a narrow central yellow band extending from the base to near the outer margin, where it terminates in a fine point, the basal half of the costal margin yellow; secondaries black, with a rather wider central yellow band extending from the base to near the apex, the cilia on the inner margin yellow: head, tegulæ, and side of the abdomen bright yellow; antennæ, palpi, thorax, abdomen, and legs black. The female only differs from the male by being slightly larger, and by the yellow band of both primaries and secondaries being a little wider. Expanse, ♂ 1¼ inch, ♀ 1½ inch.

Hab. GUATEMALA, Las Mercedes 3000 feet, Zapote (*Champion*).

This species is at once distinguished from its allies by the very narrow yellow streaks of the wings; it is most nearly allied to *J. aurimutua*, Walk. This and the three preceding species are all closely allied, but with a good series of specimens they are easily distinguished from each other.

Apparently common in Guatemala.

5. **Josia fusifera.**

Josia fusifera, Walk. Cat. vii. p. 1647[1].

Hab. BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*); GUATEMALA, Purula (*Champion*); NICARAGUA, Chontales (*Belt, mus. D.*).—COLOMBIA[1].

This species is easily distinguished from its allies by the very wide yellow bands of the primaries and secondaries. Four examples only have been received from our country.

6. **Josia decorata**, sp. n. (Tab. XIV. fig. 5.)

Primaries bright orange-yellow, a curved black band crossing the wing from the base on the costal margin to near the anal angle, the apex and the outer and inner margins narrowly bordered with black; secondaries deep black, rather broadly bordered with yellow on the inner margin and at the anal angle: head, front of thorax, and tegulæ bright yellow; palpi yellow; antennæ black; thorax and abdomen black, with a narrow yellow line on each side; legs black. Expanse 1¼ inch.

Hab. MEXICO, Valladolid in Yucatan (*Gaumer*); GUATEMALA, San Gerónimo (*Champion*).

A pretty little species, very distinct from any other known to me.

JOSIOMORPHA.

Josiomorpha, Felder, Reise Nov. Lep. t. 104. f. 12, Index, p. 6.

This genus is closely allied to *Josia*, from which it is readily distinguished by the

much longer and broader primaries, and its altogether more robust appearance; the species described by Walker as *Josia penetrata* (=*Josiomorpha longivitta*, Feld.) is the type of the genus.

1. **Josiomorpha penetrata.**

Josia penetrata, Walk. Cat. xxxi. p. 134[1].

Josiomorpha longivitta, Feld. Reise Nov. Lep. t. 104. f. 12, Index, p. 6[2]; Stretch, Cist. Ent. ii. p. 17.

Hab. Mexico (*Sallé*), Orizaba (*Hedemann*[2]), Cordova (*Rümeli*); Guatemala[1], Calderas, San Gerónimo, Senahu (*Champion*).

In Guatemala this species appears to be pretty common; from Mexico only a single male specimen has been received.

2. **Josiomorpha gigantea**, sp. n.

Closely allied to *J. penetrata*, Walk., but distinguished as follows:—the primaries have the yellow band starting from the middle of the wing close to the base instead of from the costal margin as in *J. penetrata*, and the edge of the costal margin is dark yellow instead of black; the secondaries have the costal margin widely banded with black instead of yellow; the head, collar, and tegulæ are bright orange instead of black; abdomen black with a yellow line on each side; legs black. Expanse, ♂ and ♀, 2 inches.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

This very distinct species seems to be peculiar to Costa Rica.

FLAVINIA.

Flavinia, Walker, Cat. ii. p. 369.

This genus now has a large number of species placed in it, all of which are from the Neotropical Region; it is well represented in our country.

1. **Flavinia osiris.**

Phalæna osiris, Cram. Pap. Exot. ii. t. 115. f. E[1].

Flavinia (*Chrysauge*) *osiris*, Walk. Cat. ii. p. 370[2].

Hab. Costa Rica (*Van Patten, mus. D.*).—Colombia (*mus. D.*); Guiana, Surinam[1 2].

The single individual received from Costa Rica agrees well with Cramer's figure, and also with other specimens from Colombia in my own collection.

2. **Flavinia læta.**

Flavinia læta, Walk. Cat. xxxi. p. 179[1].

Xanthyris pseudisis, Boisd. Lép. Guat. p. 93[2].

Hab. Mexico[1] (*Sallé, Boucard, mus. D.*), Cordova (*Rümeli*), Jalapa (*Höge*); Guatemala, Panzos, Senahu, Panima, Cahabon, San Gerónimo, Zapote (*Champion*); Nicaragua[2], Chontales (*Belt*); Costa Rica (*Van Patten, mus. D.*), Irazu 6000 to 7000 feet, Cache (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet, Bugaba 800 to 1500 feet (*Champion, Ribbe*).—Colombia, Bogota[1]; Venezuela[2].

This common species varies very considerably, both in size and in the width of the black band crossing the primaries; in several female examples this band is quite narrow, notched in the middle, and does not reach the black outer margin.

3. **Flavinia intercepta.** (Tab. XIV. fig. 8.)

Flavinia (*Chrysauge*) *intercepta*, Walk. Cat. ii. p. 372 [1].
Xanthyris adunca, Boisd. Lép. Guat. p. 93 [2].

Hab. Mexico; British Honduras [1], R. Sarstoon (*Blancaneaux*), Corosal (*Roe, mus. D.*); ? Nicaragua [2].—? Colombia, Bogota [2].

Through the kindness of M. C. Oberthür I have been enabled to compare the type of Boisduval's *Xanthyris adunca* with that of Walker's species; without doubt they represent one and the same species. Boisduval's type is labelled "Mexico," although he gives "Nicaragua and Colombia" in his description.

4. **Flavinia postica.**

Chrysauge postica, Walk. Cat. ii. p. 371 [1].

Hab. Nicaragua, Chontales (*Belt*).—Venezuela [1].

Only a single specimen of this species was obtained in Nicaragua; it agrees well with Walker's type from Venezuela.

5. **Flavinia velata,** sp. n. (Tab. XIV. fig. 9.)

Primaries citron-yellow, the costal, outer, and inner margins broadly bordered with black, an almost central black band crosses the wing from the costal margin to the anal angle; secondaries citron-yellow, all the margins narrowly bordered with black: head, thorax, and abdomen black on the upper side, yellowish beneath; antennæ and legs black. Expanse $1\frac{3}{10}$ inch.

Hab. Panama, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

This species is allied to *F. postica*, Walk.

6. **Flavinia basina.**

Xanthyris basina, Boisd. Lép. Guat. p. 93 [1].

Hab. ? Guatemala [1].—Venezuela [1].

I have seen the type of this species; it is very much faded, and is labelled "Colombia and Venezuela."

SCAPTIA.

Scaptia, Walker, Cat. ii. p. 376.

Walker includes two species, one of which is from Nicaragua, in this genus; I think it very doubtful if it is distinct from *Flavinia*.

1. **Scaptia antholia.**

Scaptia (*Chrysauge*) *antholia*, Walk. Cat. ii. p. 376 [1].

Hab. Nicaragua [1].

DIALEPHTIS.

Dialephtis, Felder, Reise Nov. Lep. t. 105. f. 14, Index, p. 4.

This genus at present only contains a single species; it seems to be allied to *Flavinia*.

1. Dialephtis salvini.

Dialephtis salvini, Feld. Reise Nov. Lep. t. 105. f. 14 [1].

Hab. GUATEMALA (*Salvin* [1]); NICARAGUA, Chontales (*Belt*).

I have only seen a single example of this species.

PSEUDOMENNIS, gen. nov.

Allied to *Mennis*; the primaries very much longer and narrower, the costal margin quite straight from the base to the apex, the outer margin much rounded; secondaries rather long, rounded at the apex, but the hind margin straight to the anal angle: head small, palpi slender and rather long, the antennæ simple; thorax small; abdomen slender and extending about one third of its length beyond the wings; legs long and slender.

Type *Eudule bipennis*, Walk.

This genus will include two species from Central America, one of which also extends into Venezuela and Ecuador.

1. Pseudomennis bipennis.

Eudule bipennis, Walk. Cat. ii. p. 381 [1].

Hab. BRITISH HONDURAS (*Dyson* [1]), Corosal (*Roe, mus. D.*); NICARAGUA, Chontales (*Belt*).—VENEZUELA [1]; ECUADOR (*Buckley, mus. D.*).

This species has a very wide range, but all the specimens agree well with the type.

2. Pseudomennis coccinea, sp. n. (Tab. XIV. fig. 11.)

Primaries dusky hyaline, all the veins broadly margined with brownish black, slightly shaded with red at the base; secondaries bright red, the apex bordered with black: head, palpi, and antennæ brownish black; thorax brown; tegulæ bright red; abdomen orange-red, with a central line and the anus brown; legs brown. Expanse $1\frac{1}{4}$ inch.

Hab. BRITISH HONDURAS, Rio Sarstoon (*Blancaneaux*).

This species is allied to *P. bipennis*, Walk., from which it is at once distinguished by the dark-coloured primaries.

NELO.

Nelo, Walker, Cat. ii. p. 385.

This genus is allied to *Sangala*; it now has a large number of species, mostly from Tropical South America, placed in it. In our country it is represented by a single species.

1. **Nelo chrysomela.** (Tab. XIV. fig. 7.)

Nelo chrysomela, Butl. & Druce, Cist. Ent. i. p. 117 [1].

Hab. Costa Rica (*Van Patten* [1], *mus. D.*), Cache, San Francisco (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Mr. Champion met with *N. chrysomela* locally in great abundance in Chiriqui about the banks of rocky mountain-streams, the species being fond of settling on the partially submerged rocks and stones within reach of the wet spray; it appears to be equally common in Costa Rica. These specimens do not show any variation of importance.

EVAGRA.

Evagra, Boisduval, Lép. Guat. p. 87.

Numerous species of this genus are known from Tropical America.

1. **Evagra jalifa.** (Tab. XIV. fig. 15.)

Evagra jalifa, Boisd. Lép. Guat. p. 88 [1].

Hab. Mexico (*Sallé* [1]); Honduras [1].

Through the kindness of M. C. Oberthür I have been enabled to see the type of this species; it is the only specimen known to me, and I do not feel at all certain that it should be placed near the genus *Sangala*.

2. **Evagra ribbei,** sp. n. (Tab. XIV. fig. 14.)

Primaries dark blue-black, glossed with very dark blue, crossed near the apex by a wide semihyaline whitish band; secondaries dark glossy blue, with four whitish streaks between the veins on the outer margin; the underside almost the same as above, the white markings rather more distinct: head, thorax, and tegulæ black; the collar and underside of the head orange; antennæ and palpi black; abdomen above bright glossy dark blue, beneath and the thorax dusky white; legs dusky white. Expanse $1\frac{1}{2}$ inch.

Hab. Panama, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

One example. This beautiful species is contained in the rich collection of Dr. Staudinger, who has kindly lent me the specimen for description in this work.

SANGALA.

Sangala, Walker, Cat. ii. p. 384.

Walker founded this genus for the reception of two species from Colombia. The species of *Sangala* are most beautiful insects, but I think it extremely doubtful whether the genus is represented in our country; I include it on the authority of Boisduval, never having seen or received any specimens from any locality north of the Isthmus of Panama.

1. **Sangala cælisigna.**

Sangala cælisigna, Walk. Cat. ii. p. 384 [1].

Letocles alcera, Boisd. Lép. Guat. p. 84 [2].

Hab. ? Nicaragua [2].—Colombia, Bogota [1] (*Birchell, mus. D.*), Villavicencio (*Chapman, mus. D.*).

2. Sangala beata.

Sangala beata, Walk. Cat. vii. p. 1661 [1].

Letocles decia, Boisd. Lép. Guat. p. 84 [2].

Hab. ? Mexico [2]; ? Honduras [2].—Colombia, Bogota [1], Antioquia (*Salmon, mus. D.*), Manaure (*Simons, mus. D.*); East Peru (*Whitely, mus. D.*); Ecuador (*Buckley, mus. D.*).

A common species in Tropical South America.

Œnotrus, gen. nov.

Primaries moderately long and narrow at the base, very broad near the outer margin, which is much rounded from the apex to the anal angle; secondaries rather long, extending the length of the abdomen, rounded at the anal angle: the head small, palpi very small; antennæ short, simple, and slightly thickened; thorax broad; abdomen rather short and stout; legs long and slender.

Type *Josia dispar*, Walk. This genus will contain four species from Central America.

1. Œnotrus dispar.

Josia dispar, Walk. Cat. ii. p. 298.

Lithosia rubriplaga, Boisd. Lép. Guat. p. 96 [1].

Melanchræa rubriplaga, Feld. Reise Nov. Lep. t. 105. f. 18 [2].

Hab. Mexico [2], Jalapa (*Höge*); Honduras [1]; Guatemala, San Gerónimo (*Champion*); Nicaragua [1].

The examples from Guatemala are much larger than those from Mexico, though otherwise agreeing perfectly with Walker's type in the British Museum.

2. Œnotrus striatus, sp. n. (Tab. XIV. figg. 12, 13.)

Primaries and secondaries uniform dull black; underside of the primaries dull black, crossed near the apex from the costal margin to the outer margin by a narrow greyish line; of the secondaries black, with all the nerves greyish: head, collar, tegulæ, and the thorax beneath orange-yellow; thorax above, abdomen, antennæ, and legs, black. Expanse $1\frac{1}{4}$ inch.

Hab. Guatemala, Purula, Dueñas (*Champion*).

This species is also represented in Dr. Staudinger's collection, without any exact locality.

3. Œnotrus secretus.

Ardonea secreta, Walk. Cat. xxxi. p. 222 [1].

Melanchroia spuria, H. Edwards, Papilio, iv. p. 15 [2].

Hab. Mexico, Oaxaca (*Sallé*) [1], State of Vera Cruz (*Schaus* [2]); Guatemala, Quiche Mountains 7000 to 9000 feet, Totonicapam 8500 to 10,500 feet (*Champion*).

I have no doubt that the species lately described by Mr. H. Edwards is the same as Walker's, his description agreeing well with the specimens before me.

Mr. Champion's examples were captured in the pine-forests at a high elevation.

4. Œnotrus pacilius, sp. n.

Primaries and secondaries above and beneath uniform dull black; thorax, abdomen, and legs black. Expanse 1¼ inch.

Hab. Guatemala, Dueñas (*Champion*).

Only a single specimen of this dull-coloured species was obtained; it is allied to *Œ. secretus*, from which it is at once distinguished by its entirely black colour.

NYCTOCHROA.

Nyctochroa, Felder, Reise Nov. Lep. t. 106. f. 27.

Dr. Felder places a single species from Mexico in this genus.

1. Nyctochroa basiplaga.

Nyctochroa basiplaga, Feld. Reise Nov. Lep. t. 106. f. 27[1], Index, p. 7.

Hab. Mexico [1] (*Bilimek*).

Unknown to me.

MELANCHROIA.

Melanchroia, Hübner, Verz. bek. Schmett. p. 173; Walker, Cat. ii. p. 387.

This genus now has about eight species placed in it.

1. Melanchroia cephise.

Phalæna Geometra chephise, Cram. Pap. Exot. iv. p. 182, t. 381. f. E.
Melanchroia cephise, Hübn. Samml. exot. Schmett. ii. t. 17. figg. 1–4; Walk. Cat. ii. p. 387 [1].
Tanagra expositata, Walk. Cat. xxv. p. 1461.

Hab. Mexico [1], Ciudad in Durango 8100 feet, Milpas 5900 feet, Tres Marias Islands (*Forrer*), Cordova (*Rümeli*), Acapulco (*J. J. Walker*); Guatemala, San Gerónimo, San Joaquin, Zapote, San Isidro 1600 feet (*Champion*); Honduras [1], San Pedro (*G. M. Whitely, mus. D.*); Costa Rica, Irazu 6000 to 7000 feet, Cache, San Francisco 4500 feet (*Rogers*), Cartago (*Van Patten, mus. D.*); Panama, Volcan de Chiriqui (*Arcé, mus. D.*), Bugaba 800 to 1500 feet (*Champion*).—Colombia to the Argentine Republic (*mus. D.*); Jamaica [1].

This species is very abundant throughout the greater part of our country, excepting perhaps the State of Panama, where it appears to be scarce, Mr. Champion only obtaining two specimens from thence; in South America it is very common in most localities.

2. Melanchroia (?) inconstans.

Melanchroia inconstans, Geyer, in Hübn. Zutr. Samml. exot. Schmett. v. p. 17. no. 431, figg. 861, 862; Walk. Cat. ii. p. 389 [1].

Hab. Mexico [1].

Unknown to me.

Fam. DIOPTIDÆ.

LAURONA.

Lauron, Walker, Cat. ii. p. 333.
Laurona, Walker, Cat. xxxi. p. 148; Butler, Cist. Ent. ii. p. 118.

Walker placed six species from Tropical America in this genus; it is well represented in our country.

1. Laurona rica.

Dioptis rica, Hübn. Zutr. Samml. exot. Schmett. iii. p. 31. no. 266, figg. 531, 532.
Lauron (*Dioptis*) *rica*, Walk. Cat. ii. p. 333 [1].
Ditaxis sora, Boisd. Lép. Guat. p. 79 [2].
Laurona rica, Butl. Cist. Ent. ii. p. 118 [3].
Laurona panamensis, Butl. Cist. Ent. ii. p. 118 [4].

Hab. Mexico, Cordova (*Rümeli*); British Honduras (*Dyson*), Rio Sarstoon (*Blancaneaux*); Guatemala [2], San Isidro 1600 feet, Zapote, Chiacam, Panima, San Juan in Vera Paz, Panzos (*Champion*); Costa Rica, Cache (*Rogers*), Cartago (*Van Patten, mus. D.*); Panama, Veraguas (*Salvin* [4]), Volcan de Chiriqui 2000 to 3000 feet (*Champion, Ribbe*), Bugaba (*Champion*).—South America [1]; Colombia (*mus. D.*), Santa Marta (*Boucard* [3]); Venezuela [1 3]; East Peru (*Whitely, mus. D.*).

In our country this is a very widely distributed species, and found from Mexico to Panama. I have not the slightest doubt about Boisduval's and Butler's species being identical with *L. rica*, Hübn.

2. Laurona syma.

Lauron (*Dioptis*) *syma*, Walk. Cat. ii. p. 334.
Laurona syma, Butl. Cist. Ent. ii. p. 119 [1].
Laurona subafflicta, Walk. Cat. xxxi. p. 148 [2].
Epilais zetila, Boisd. Lép. Guat. p. 78 [3].

Hab. ? Guatemala [3].—Colombia, Bogota [1 2].

I include this species in our fauna upon the authority of Boisduval, who described it as *Epilais zetila* in his paper on Guatemalan Lepidoptera.

3. Laurona chthonophyle, sp. n. (Tab. XIV. fig. 17.)

Primaries uniform dull black, crossed close to the apex by a narrow white band; secondaries uniform dul black: head, antennæ, and palpi black; thorax, tegulæ, and anus orange-red; abdomen black above, dusky white beneath; legs black. Expanse 1½ inch.

Hab. Mexico (*Staudinger*), Presidio (*Forrer*).

This dull-coloured species appears to be peculiar to Mexico; it is most nearly allied to *L. vinosa*, Walk., a species found in the Antilles.

DIOPTIS.

Dioptis, Hübner, Verz. bek. Schmett. p. 174.
Hyrmina, Walker, Cat. ii. p. 331.

This genus is well represented in our country, but its headquarters appear to be the Amazons regions.

1. **Dioptis areolata.**

Hyrmina (*Dioptis*) *areolata*, Walk. Cat. ii. p. 332[1]; Butl. Cist. Ent. ii. p. 116[2].
Epilais melda, Boisd. Lép. Guat. p. 78[3].
Hab. Nicaragua[3].—South America[1], ? Ecuador[3], Brazil[1 2].

2. **Dioptis noctiluces.**

Dioptis noctiluces, Butl. Cist. Ent. i. p. 88[1]; Lep. Exot. p. 176, t. 61. f. 7[2].
Dioptis salvini, Feld. Reise Nov. Lep. t. 105. f. 5[3].
Hyrmina noctiluces, Butl. Cist. Ent. ii. p. 116[4].
Hab. Costa Rica[1], Cartago (*Van Patten*[2 4], *mus. D.*); Panama (*Salvin*, *mus. Felder*[3]).

3. **Dioptis ithomeina.**

Dioptis ithomeina, Butl. Cist. Ent. i. p. 87[1]; Lep. Exot. p. 175, t. 61. f. 8[2].
Dioptis erycinoides, Feld. Reise Nov. Lep. t. 105. fig. 4[3].
Hyrmina ithomeina, Butl. Cist. Ent. ii. p. 116[4].
Hab. Costa Rica[1], Cartago (*Van Patten*[2 4], *mus. Brit.*); Panama (*Salvin*, *mus. Felder*[3]), Volcan de Chiriqui (*Arcé*, *mus. D.*).

This and the preceding species appear to be very rare; I have only seen two or three specimens.

4. **Dioptis candelaria**, sp. n. (Tab. XIV. fig. 16.)

Primaries and secondaries dusky hyaline, all the veins black; the primaries with a whitish band crossing near the apex and two white spots close to the anal angle, the costal, outer, and inner margins bordered with black; secondaries broadly bordered with black on the outer margin: head, antennæ, thorax, and abdomen black above, the latter dusky white beneath; collar orange-red; legs black. Expanse $1\frac{3}{4}$ inch.

Hab. Panama, Rio Candelaria (*Ribbe*, *mus. Staudinger*).

One example. This distinct species is allied to *D. phelina*, Feld., from Bogota.

5. **Dioptis nervosa.**

Dioptis nervosa, H. Edwards, Papilio, iv. p. 15[1].
Hab. Mexico, State of Vera Cruz (*Schaus*[1]).

ASTYOCHIA, gen. nov.

Head small, palpi very minute; antennæ of the male closely pectinated and rather long, of the female simple and shorter; thorax and abdomen slender, the abdomen not extending beyond the wings; legs very slender and rather long; primaries short and broad; secondaries rather long, always more or less hyaline, a slight tuft of hair close to the base on the anal fold in the male, of the female more rounded than those of the male.

This genus will include three species from the southern parts of Central America and Colombia.

1. **Astyochia crane,** sp. n. (Tab. XIV. figg. 18 ♂, 19 ♀.)

Male. Primaries and secondaries uniform silky whitish hyaline, the costal apex, and the outer and part of the inner margins, bordered with black, the secondaries bordered with black from the apex round the outer margin to near the base, a black band at the end of the cell on the primaries, in some specimens the discoïdal nervules black: head, antennæ, and palpi black; thorax and abdomen dusky white; legs brownish black. The female differs from the male in not having the black band at the end of the cell on the primaries, and in the black margins being narrower. Expanse, ♂ 1 inch, ♀ $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).

On the volcano of Chiriqui this is a common insect; it is found in the denser parts of the forest. I have a very large series of specimens before me showing but very little variation.

2. **Astyochia fessonia,** sp. n.

Male. Form of *A. crane*; primaries and secondaries bluish hyaline, the veins and margins of the wings black, the black band at the end of the cell crosses from the costal to the outer margin: head, thorax, and abdomen greyish black; antennæ, palpi, and legs black. The female only differs from the male in not having the veins so deeply marked with black. Expanse ♂ ♀ 1 inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*).—COLOMBIA, Bogota (*Birchell, mus. D.*).

3. **Astyochia faula,** sp. n. (Tab. XIV. fig. 28.)

Primaries pale brownish drab, the veins slightly darker in colour and somewhat hyaline near the base, the costal margin and a spot at the end of the cell darker brown; secondaries uniform pale brownish drab, the veins darker, the underside the same as above: head, thorax, and abdomen silky brown; antennæ and palpi black; legs brownish black. The female similar to the male, but paler in colour. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

A common species in the State of Panama.

TITHRAUSTES, gen. nov.

Head moderately large; palpi erect, rather long and slender; antennæ long, deeply pectinated; eyes large and prominent; proboscis short; thorax and abdomen stout, the abdomen extending beyond the wings; legs long, slender, and not clothed with hair; primaries long and rather broad; secondaries long and much rounded at the apex.

This genus is allied to *Astyochia*; it will contain four species from Central America.

1. **Tithraustes hæmon,** sp. n. (Tab. XIV. fig. 20.)

Primaries pale brown, slightly hyaline near the base, a large round spot at the end of the cell, and two small spots beyond close to the outer margin, dusky white; secondaries pale blackish brown, with a large central dusky white spot: head, thorax, and upper side of the abdomen dark brown, the abdomen dusky white beneath; antennæ black; palpi brown; tegulæ bright orange; legs brownish black on the outer side, whitish beneath. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

2. **Tithraustes deiphon,** sp. n. (Tab. XIV. fig. 25.)

Primaries pale brown, a large round white spot at the end of the cell and two minute white dots on the outer margin, a transverse hyaline streak extending from the base about halfway across the wing; secondaries pure white, bordered with black along the abdominal and outer margins, and also very broadly at the apex: head, thorax, and abdomen brownish black above, dusky white beneath; antennæ black; palpi brown; legs very pale brown. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

This species is allied to *T. hæmon*, from which it is easily distinguished by its white hind wings.

3. **Tithraustes eteocles,** sp. n.

Primaries dark brown, clouded with black and shaded with white on the outer margin close to the apex, the veins all pale brown, a large round white spot at the end of the cell, a small spot below close to the anal angle, and a narrow longitudinal hyaline band extending from the base to about the middle; secondaries black, with a wide central hyaline streak extending from the base to near the outer margin: head, thorax, and abdomen dark brown above, dusky white beneath; palpi and antennæ black; tegulæ orange; legs brownish white. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Cubilguitz 1000 feet (*Champion*); NICARAGUA, Chontales (*Belt*).

This species is allied to *T. deiphon*, from which it is at once distinguished by its much larger size, the different position of the white spots on the primaries, and the very much blacker secondaries. I have only received two examples of this insect; the one taken by Mr. Champion in Guatemala is considerably larger than that from Nicaragua, but in other respects they are identical.

4. **Tithraustes butes,** sp. n.

Primaries deep black, with a narrow longitudinal hyaline streak extending from the base almost to the middle, a transverse hyaline white band crossing from the costal margin to the anal angle, but not reaching the margin; secondaries hyaline, broadly bordered with black: head, thorax, and abdomen black above, dusky white beneath; antennæ and palpi black; tegulæ bright orange-red; legs brownish black. Male and female similar. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Cubilguitz (*Champion*).

I have only received a male and female of this distinct species.

POLYPŒTES, gen. nov.

Head quite small; palpi rather long, slender, and curved back on to the head; antennæ long and deeply pectinated in the male, simple in the female; thorax and abdomen rather stout, the abdomen not extending beyond the wings; legs short and slightly stout; primaries short and broad, the costal margin straight secondaries broad and much rounded at the apex.

This genus is allied to *Tithraustes*, from which it differs greatly in the much shorter primaries and the wider and more rounded secondaries; I include in it nine new species, all from Central America, the genus ranging from Guatemala southwards to Panama and probably beyond.

1. **Polypœtes deldon,** sp. n. (Tab. XIV. fig. 24.)

Primaries brownish black, all the veins pale brown, almost yellow, an indistinct whitish spot at the end of the cell; secondaries uniform dull black, with a white spot beyond the middle, slightly nearest the costal margin; the secondaries silky white beneath, except at the apex, which is broadly bordered with black: head, thorax, and abdomen brownish black above, dusky white beneath; antennæ and palpi black; tegulæ streaked with yellowish brown. Expanse 1 inch.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet, Las Mercedes 3000 feet, Pantaleon 1700 feet (*Champion*).

Beaten from the dead hanging leaves of growing bananas (*Champion*).

2. **Polypœtes etearchus,** sp. n. (Tab. XIV. fig. 23.)

Primaries sooty black, slightly hyaline near the base, with all the veins pale yellowish brown, a dusky hyaline white spot at the end of the cell; secondaries pure white, broadly banded with black on the abdominal and outer margins: head, thorax, and abdomen black above, dusky white beneath; palpi and tegulæ orange; antennæ black; legs black above, dusky white beneath. The female similar to the male. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Cubilguitz (*Champion*); COSTA RICA, Irazu 7000 feet, Cache (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).

This species is very constant; the specimens before me do not vary in the least degree.

3. **Polypœtes demades,** sp. n.

Primaries pale brown, the veins all paler in colour, crossed by three indistinct dark brown bands and three dusky white streaks near the apex; secondaries uniform pale brown, slightly hyaline near the base: head, thorax, and abdomen dark brown; antennæ and palpi black; tegulæ bright orange; legs black. Female similar to the male, but the secondaries are blacker. Expanse, ♂ $1\frac{1}{4}$ inch, ♀ $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Aceituno (*Champion*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

This species is very distinct from all the others described here; it comes nearest *P. eriphus.*

4. **Polypœtes eriphus,** sp. n.

Primaries dark brown, all the veins pale yellowish brown, a semihyaline oval white spot at the end of the cell, and a narrow submarginal brownish yellow band extending from the apex to the anal angle; secondaries hyaline white, the abdominal half and the outer margin broadly bordered with black: head, thorax, and abdomen dusky black; antennæ and palpi black; legs brownish black. The female similar to the male, but brighter in colour, and the black margins on the secondaries not quite so broad. Expanse, ♂ $1\frac{3}{10}$ inch, ♀ $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Panima in Vera Paz (*Champion*).

One example only was received of this distinct species.

5. **Polypœtes esernius,** sp. n.

Primaries dark brown, the base, a round spot at the end of the cell, three small streaks close to the apex, and a spot near the anal angle hyaline; secondaries white, the apex and outer margin bordered with black: head, thorax, and abdomen brownish black; antennæ and palpi black; tegulæ tipped with orange; legs black. The female similar to the male, but rather larger. Expanse, ♂ 1 inch, ♀ $1\frac{3}{10}$ inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*).

This species is not very closely allied to any other known to me.

6. **Polypœtes halesius,** sp. n.

Male. Primaries very pale brown, clouded with darker brown, all the veins pale yellow, a large yellowish-white spot at the end of the cell; secondaries pure white, edged with black at the apex: head and thorax dark brown; antennæ black; palpi and tegulæ yellow; abdomen dusky white; legs white.—*Female.* The primaries much darker brown and almost without the white spot at the end of the cell; the secondaries with the black margin extending round to the anal angle. Expanse, ♂ $1\frac{1}{10}$ inch, ♀ $1\frac{1}{4}$ inch.

Hab. COSTA RICA, Rio Sucio, Irazu 6000 to 7000 feet (*Rogers*).

This species is allied to *P. eriphus*, but at once distinguished from that insect by its white hind wings.

7. **Polypœtes haruspex,** sp. n.

Primaries dark brown, slightly paler at the base and at the end of the cell, all the veins pale yellow, a small round yellow spot close to the apex; secondaries pure creamy white, bordered evenly with deep black: head and thorax black; abdomen brownish black above, dusky white beneath; antennæ and palpi black; legs brownish black; tegulæ yellow. Expanse 1 inch.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

A pretty little species, very distinct from all the others described here.

8. **Polypœtes creon,** sp. n. (Tab. XIV. fig. 22.)

Primaries very pale brown, whitish close to the base, the veins almost white, a white band crossing the wing from the costal margin to near the anal angle, the anal half almost divided into a round spot; secondaries pure white, slightly bordered with pale brown at the apex and round the outer margin: head white; palpi and antennæ black; thorax and abdomen brownish white; legs black; tegulæ yellow. Female similar to the male. Expanse $1\frac{1}{10}$ inch.

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*).

Several examples.

9. **Polypœtes erymas,** sp. n. (Tab. XIV. fig. 21.)

Male. Primaries pale brown, crossed about the middle by a white band, which does not reach the inner margin, a round yellow spot close to the apex; secondaries pure white, bordered with black: head, thorax, and abdomen brownish black, the abdomen dusky white beneath; antennæ black; palpi yellow, tipped with black; tegulæ yellow; legs brownish white. The female similar to the male. Expanse, ♂ 1 inch, ♀ $1\frac{1}{10}$ inch.

Hab. GUATEMALA, Purula, San Gerónimo, Cerro Zunil 4000 to 5000 feet (*Champion*); COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet, Bugaba 800 to 1500 feet (*Champion*).

This species is allied to *P. creon*, from which it is at once distinguished by having the small yellow spot close to the apex of the primaries, and the margins of the secondaries black. *P. erymas* appears to be the most common species of the genus, many examples having been received from the above-mentioned localities.

PHANOPTIS.

Phanoptis, Felder, Reise Nov. Lep. t. 104. f. 10, Index, p. 8.

I cannot find that this genus, established by Felder for a Colombian insect, *P. cyano-*

melas, Feld., has been described; it has nothing to do with *Gnophœla*, Walk. One species is found in our country.

1. **Phanoptis vitrina,** sp. n. (Tab. XIV. fig. 26.)

Primaries hyaline, broadly black at the apex, a wide whitish hyaline band crossing beyond the middle from the costal margin almost to the anal angle (but not reaching the margin), two small hyaline spots close to the apex, the veins are all black, except where the white band crosses the wing; secondaries hyaline, the costal apex and outer margins bordered with black, the veins black: head and antennæ black; palpi orange, tipped with black; tegulæ black; thorax and abdomen black above, dusky white beneath; a white spot at the back of the head and one on each side of the thorax; legs brownish black. The female is similar to the male but rather browner in colour, and the antennæ are not nearly so deeply pectinated. Expanse, ♂ 2 inches, ♀ 2¼ inches.

Hab. PANAMA, Volcan de Chiriqui (*Arcé, mus. D.*), Bugaba (*Champion*).

This fine species is allied to *P. cyanomelas*, Feld., from which it is at once distinguished by its much larger size, the entire absence of any blue gloss on the wings, and by the white band across the primaries. *P. vitrina* appears to be confined to Chiriqui; I have not seen it from any other locality.

LOCHA.

Locha, Walker, Cat. ii. p. 335; Butler, Cist. Ent. ii. p. 120.

Walker founded this genus upon two Tropical American insects, one of which is, so far as at present known to me, only found in our country, Colombia, and Ecuador; I have no evidence of its occurrence further south.

1. **Locha hyalina.**

♀. *Locha* (*Dioptis*) *hyalina*, Walk. Cat. ii. p. 336[1]; Butl. Cist. Ent. ii. p. 120[2].

♂. *Erycinopsis diaphana*, Feld. Reise Nov. Lep. t. 105. f. 9[3].

♂. *Locha perspicua*, Butl. Cist. Ent. ii. p. 120[4].

Hab. NICARAGUA, Chontales[4] (*Belt, Janson*); PANAMA, Volcan de Chiriqui (*Arcé, mus. D.*).—SOUTH AMERICA[1 2]; COLOMBIA, Bogota[3]; ECUADOR (*mus. D.*).

I cannot see that the insect described as *L. perspicua* by Mr. Butler is in any way distinct from *L. hyalina*, Walk. In a long series of specimens the black margin of the wings proves to be a variable character. Walker's type is a female; Mr. Butler's a male.

STENELE.

Stenele, Walker, Cat. ii. p. 356.

A genus founded by Walker upon an insect from the Amazon region. One species is also found in our country.

1. **Stenele lutescens.** (Tab. XIV. fig. 27.)

Chrysauge lutescens, Butl. Cist. Ent. i. p. 88[1]; Lep. Exot. p. 176, t. 61. f. 14[2].

Hab. MEXICO (*Boucard, mus. D.*); GUATEMALA, Sinanja, Chiacam, Panima (*Champion*);

Nicaragua, Chontales (*Belt*); Costa Rica [1], Cartago [2] (*Van Patten, mus. D.*); Panama, Volcan de Chiriqui (*Arcé, mus. D., Champion*), Bugaba 800 to 1500 feet (*Champion*).

This species is allied to *S. repanda*, Walk.; it also closely resembles *Aletis forbesi* from West Africa. Mr. Champion reared a specimen from a pupa, of a pale yellow colour and spotted with black, enclosed in a pretty open network cocoon attached to a leaf. *S. lutescens* frequents the second-growth woods (rastrojos), and is usually found flying over the tops of low trees or bushes in the hot sunshine; it is a common species of the low country.

Fam. LIPARIDÆ.

GENUSSA.

Genussa, Walker, Cat. xxxi. p. 171.

Walker founded *Genussa* for the reception of an insect (*G. celerenaria*) collected by Mr. Bates on the Amazons, and states that it is allied to *Celerena*, a genus now placed in the Euschemidæ.

1. Genussa (?) dioptis.

Genussa (?) *dioptis*, Feld. Reise Nov. Lep. t. 130. f. 21 [1].

Hab. Panama, Veragua [1].

This species is only known to me from Felder's figure.

AGARÆA.

Agaræa, Herrich-Schäffer, Samml. aussereur. Schmett. p. 21.

This genus contains only one species, which is not uncommon in our country.

1. Agaræa longicornis.

Agaræa longicornis, Herr.-Schäffer, loc. cit. p. 21, t. 76. f. 442 [1]; Walk. Cat. xxxi. p. 260 [2].

Hab. Guatemala, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet, Cubilguitz, Coban, Senahu (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Brazil [1 2].

This species is common in Guatemala and the State of Panama, but I have never seen it from any locality south of the isthmus.

Mr. Champion captured many examples by beating the withered hanging leaves of cultivated Musaceæ.

PENORA.

Penora, Walker, Cat. iv. p. 821.

Eloria, Walker, Cat. iv. p. 813; ibid. xxxii. p. 339.

Walker includes several Indian species in this genus, but I think it doubtful if these are congeneric with the species inhabiting the Neotropical Region. In our country *Penora* is well represented by six species.

1. **Penora remota.**

Penora remota, Walk. Cat. iv. p. 821 [1].

Hab. Costa Rica (*Van Patten, mus. D.*).—West coast of America [1] (*Wood, in coll. Brit. Mus.*).

One example, not in good condition. *P. remota* seems to differ from all the other species of the genus by having the wings much more hyaline.

2. **Penora festiva.**

Phalæna festiva, Cram. Pap. Exot. i. p. 112. t. 71. f. c.[1]

Penora festiva, Walk. Cat. iv. p. 821 [2].

Hab. Mexico (*Boucard, in mus. D.*); Guatemala, Teleman (*Champion*); Panama, Volcan de Chiriqui (*Arcé, mus. D.*), Bugaba (*Champion*).—Colombia, Bogota; Guiana, Surinam [1], Roraima; Ecuador; Brazil [2].

This species is found over a very extended range of country. In Mexico and Guatemala it is very rare; I have only seen one specimen from each country. In the State of Panama and in Colombia it is very common; in Ecuador it again becomes scarce, Buckley aving only obtained a few specimens.

3. **Penora spectra.**

Liparis spectra, Hübn. Samml. exot. Schmett. ii. t. 177. figg. 1, 2 ♂, 3, 4 ♀; Verz. bek. Schmett. p. 158.

Eloria intacta, Walk. Cat. iv. p. 814 [1].

Hab. Mexico, Cordova (*Rümeli*); Guatemala, Cerro Zunil 4000 to 5000 feet, Senahu, Cubulco (*Champion*).—Amazons, Parà (*Bates* [1]).

P. diaphana, Cramer, is probably identical with this species, but not having specimens for comparison I cannot speak positively.

4. **Penora subnuda.**

Eloria subnuda, Walk. Cat. iv. p. 814 [1].

Hab. Honduras (*Dyson* [1]); Costa Rica (*Boucard, mus. D.*).—Brazil [1].

This species is very close to *P. spectra*; the only difference that I can detect is that the wings are much more cream-coloured and not so hyaline as in that species.

5. **Penora onaba,** sp. n. (Tab. XV. figg. 2 ♀, 3 ♂.)

Primaries and secondaries pure white, slightly hyaline, the costal margin of the primaries dusky, the ends of the nerves along the outer margins of both primaries and secondaries black: head and front of thorax yellowish; antennæ brownish black; palpi yellow, tipped with black; hind part of the thorax and the abdomen yellowish-white, the latter with a central brown line on the upper side; legs brownish-white. The female differs from the male in having the apex of the primaries broadly margined with dusky black. Expanse, ♂ $1\frac{1}{2}$ inch, ♀ $1\frac{3}{4}$ inch.

Hab. Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion, Arcé, mus. D.*).

This delicate species is quite distinct from any other known to me. It appears to be scarce, Mr. Champion having met with very few examples; from Arcé I only received a single specimen.

6. **Penora ombrea,** sp. n. (Tab. XV. fig. 8.)

Primaries and secondaries uniform dusky brown, rather lighter from the base to about the middle: head, thorax, and abdomen pale dusky brown; antennæ and palpi pale brown; underside of the abdomen and the legs whitish-brown. Expanse 1½ inch.

Hab. Costa Rica (*Van Patten, mus. D.*).

This species is allied to *P. discifera*, Walker, from Brazil.

XENOSOMA.

Xenosoma, Felder, Reise Nov. Lep. t. 99. f. 9.

Eloria, Walker, Cat. iv. p. 813; ibid. xxxii. p. 339 (=*Penora*, Walker, ante, p. 163).

This genus is allied to *Penora*, Walker, from which it differs in many respects.

Eloria, Walker, being identical with *Penora*, Walker, I adopt Felder's name. Several species of the genus are known from Tropical America; we have to record three from our region.

1. **Xenosoma flaviceps.**

Eloria flaviceps, Walk. Cat. xxxii. p. 339[1].

Xenosoma nigricosta, Feld. Reise Nov. Lep. t. 99. f. 9[2]; Stretch, Cist. Ent. ii. p. 16.

Hab. Mexico[1]; Guatemala[2], Zapote, Panzos (*Champion*).

I have not received any specimens of this species from Mexico, and in Guatemala it is far from common.

2. **Xenosoma nigromarginatum,** sp. n. (Tab. XV. fig. 4.)

Primaries and secondaries hyaline-white, the primaries with the costal and outer margins and all the nerves brownish-black; secondaries margined with brownish-black from the apex to near the anal angle: head yellow; antennæ and palpi black; thorax brown, speckled with white scales; tegulæ white, with a small yellow spot at the base; abdomen brownish-white, the anal segments bright yellow; legs brown. Expanse, ♂ 2 inches, ♀ 2½ inches.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

Mr. Rogers only obtained two specimens of this very distinct species.

X. nigromarginatum is most nearly allied to *X. flaviceps*, but from that species it is at once distinguished by the black nerves and margins of the primaries, also by its larger size and much more robust appearance.

3. **Xenosoma nicander,** sp. n. (Tab. XV. fig. 6.)

Primaries whitish-hyaline, the costal margin and apex smoky black (more so in the female than in the male); secondaries whitish-hyaline, narrowly margined with black from the apex to near the anal angle: head, thorax, and tegulæ bright yellow; antennæ and palpi black; abdomen brownish-white, the anus bright yellow; legs pale brown. Expanse 1½ inch.

Hab. Costa Rica, Cache (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet, Bugaba (*Champion*).

This species is allied to *X. nigromarginatum*.

CAVIRIA.

Caviria, Walker, Cat. iv. p. 824.

This genus was founded by Walker upon a Brazilian insect (*C. substrigosa*); I now trace this species as far north as Costa Rica. *Caviria* to some extent resembles the genus *Redoa*.

1. **Caviria substrigosa.** (Tab. XV. fig. 1.)

Caviria substrigosa, Walk. Cat. iv. p. 825 [1].

Hab. Costa Rica, Cache (*Rogers*); Panama, Volcan de Chiriqui (*Arcé*, *Champion*), Bugaba 800 to 1500 feet (*Champion*).—Ecuador; Brazil [1].

This beautiful species resembles *Redoa clara*, Walker. In Costa Rica and the State of Panama it appears to be fairly common, but from South America I have only seen a few specimens. Inhabits the humid forest region up to an elevation of 3000 feet (*Champion*).

SARSINA.

Sarsina, Walker, Cat. iv. p. 800.

This genus was founded upon a single species from Yucatan; and according to the describer is said to be somewhat allied to the "Drepanulidæ." I include it here with considerable doubt, as belonging to this family; it is quite unknown to me.

1. **Sarsina purpurascens.**

Sarsina purpurascens, Walk. Cat. iv. p. 800 [1].

Hab. Mexico, Yucatan [1] (*in mus. Oxford*).

ARCHYLUS.

Archylus, Walker, Cat. vii. p. 1718.

Archylus was founded upon a small species, specimens of which were captured on the banks of Tapajos, Brazil, by Mr. Bates; I now trace it northwards to the State of Panama.

1. **Archylus guttifascia.** (Tab. XV. fig. 14.)

Archylus guttifascia, Walk. Cat. vii. p. 1719 [1].

Hab. Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Brazil, R. Tapajos (*Bates*) [1].

The single specimen sent by Mr. Champion agrees well with the type in the British Museum.

STILPNOTIA.

Stilpnotia, Westwood and Humphry, Brit. Moths, i. p. 90; Walker, Cat. iv. p. 841.

Several species of this genus are known from both the Old and the New Worlds, the genus inhabiting tropical as well as temperate regions.

1. Stilpnotia tibialis.

Stilpnotia tibialis, Walk. Cat. iv. p. 842 [1].

Hab. GUATEMALA, Panima (*Champion*); HONDURAS (*Dyson* [1]); PANAMA, Bugaba 800 to 1000 feet, Caldera in Chiriqui 1200 feet (*Champion*).

The specimens from Guatemala and the State of Panama are smaller than the type, but in other respects they agree. I believe that this species will represent a distinct genus; but at present the available material is insufficient to be able to form a decided opinion, the three specimens before me being from different localities.

2. Stilpnotia pura.

Stilpnotia pura, Walk. Cat. vii. p. 1732 [1].

Hab. PANAMA, David (*Champion*).—AMAZONS, Santarem (*Bates* [1]).

A single specimen of this species was obtained by Mr. Champion; it agrees well with the type in the British Museum.

CARAMA.

Carama, Walker, Cat. iv. p. 843.

Carama was founded by Walker upon a single species (*C. sparshalli*) from Brazil. The genus now has about seven species placed in it, all from the Neotropical Region; in our country it is represented by four species.

1. Carama walkeri.

Carama walkeri, Butl. Cist. Ent. ii. p. 203 [1].

Carama sparshalli, Walk. (nec Curtis), Cat. iv. p. 844 [2].

Hab. MEXICO [1] (*coll. Brit. Mus.*).—ECUADOR; AMAZONS, Parà [2], Santarem [2].

This beautiful species appears to be very rare. The only specimen known to me from our country is the one from Mexico in the British Museum; from Ecuador I have specimens of both sexes, which were captured by the late Mr. Buckley.

2. Carama ovina.

Phalæna-bombyx ovina, Sepp, Surinaam Vlinders, iii. p. 233, t. 105 [1].

Euproctis (?) *ovina,* Walk. Cat. iv. p. 834 [2].

Carama ovina, Butl. Cist. Ent. ii. p. 203 [3].

Hab. MEXICO, Cordova (*Rümeli*); GUATEMALA, Las Mercedes 3000 feet, Capetillo (*Champion*); PANAMA, Caldera in Chiriqui 1200 feet (*Champion*).—VENEZUELA [3]; GUIANA, Surinam [1 2]; BOLIVIA [3].

This species appears to be rare, I have only seen a very few specimens. Sepp's figure is not a good one, but I have little doubt that it represents our species.

3. **Carama plumosa.** (Tab. XV. fig. 7.)

Carama plumosa, Butl. Cist. Ent. ii. p. 204 [1].

Hab. Costa Rica (*Van Patten*), Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet, David (*Champion*).—Brazil, Santarem [1].

This species appears to be pretty common both in Costa Rica and the State of Panama; it is closely allied to *C. ovina.* The colour of the antennæ of the males varies greatly; in fresh specimens it is bright yellow, but the colour soon seems to fade.

4. **Carama minuta,** sp. n.

Primaries and secondaries uniform silky white, slightly shaded with cream-colour on the costal margin and apex of the primaries: head, thorax, and abdomen pure white; antennæ and legs cream-colour. Expanse $\frac{1}{2}$ inch.

Hab. Panama, Obispo (*Salvin, in mus. D.*).

Mr. Salvin obtained a single specimen of this beautiful little species at Obispo, in the vicinity of the line of the Panama railroad, in 1873; it is the smallest of the genus.

ORGYIA.

Orgyia, Ochsenheimer, Schmett. von Eur. iii. p. 208 (1810).

This well-known genus is represented in our country by one or at most two species; from North America seven species have been described, and it is more than probable that some of them will eventually be found in the northern part of Mexico; others inhabit Europe.

1. **Orgyia leucostigma.**

Phalæna leucostigma, Abbot & Smith, Ins. Georgia, ii. p. 157, t. 79[1].

Orgyia leucostigma, Walk. Cat. iv. p. 786 [2].

Hab. North America, Georgia [1], Nova Scotia [2].—Mexico, Presidio (*Forrer*), Jalapa (*Höge*).

The two Mexican specimens before me are almost identical with others in my collection from North America. The example from Presidio is somewhat paler in colour and the markings are less distinct, but it has the appearance of being rather a worn example; at the same time it may possibly prove to belong to another species. The larva and pupa, as well as the imago, of *O. leucostigma* are figured by Abbot and Smith; the larva feeds upon various kinds of oak [1].

EACLES.

Eacles, Hübner, Verz. bek. Schmett. p. 153; Walker, Cat. vi. p. 1370.

Numerous species of this genus are known from North and South America; in our country it is represented by three species, one of which is now described as new.

1. **Eacles magnifica.** (Tab. XV. fig. 13.)

Eacles magnifica, Walk. Cat. vi. p. 1373[1].

Hab. Mexico, Cordova (*Höge*); Guatemala, Joyabaj (*Champion*); Nicaragua, Chontales (*Belt*); Panama, Volcan de Chiriqui (*Arcé*).—Brazil, Parà[1], Rio Janeiro; Argentine Republic; Paraguay.

This species is found over a very wide range of country; I have a good series of specimens before me which show a considerable amount of variation in the females; the Mexican and Guatemalan examples are most like those from the Argentine Republic, being more strongly spotted and banded than the examples from Nicaragua, the State of Panama, and Brazil. A specimen from Nicaragua is the palest I have seen, and also the largest, measuring fully seven inches from tip to tip of the primaries. An individual, a female, from Paraguay, in my collection, is of a dull dirty yellow colour with all the spots and bands considerably larger than they are in any other example before me; but without seeing a male I do not feel justified in considering it as distinct from *E. magnifica*, at the same time it may belong to a different species.

The example sent from Joyabaj Mr. Champion reports as having dropped from the mouth of a bird on the wing and was picked up (comparatively uninjured) by him, while crossing the lofty range of mountains between Cubulco and Joyabaj.

E. magnifica closely resembles the North-American *E. imperialis.* Our figure is taken from a specimen from the Volcan de Chiriqui.

2. **Eacles mexicana.** (Tab. XV. fig. 11, ♂.)

Citheronia mexicana, Grote & Robinson, Ann. Lyc. New York, viii. p. 382, t. 13. fig. 1 (♀)[1].

Hab. Mexico (*Edwards*[1]), Jalapa (*Höge*).

A single specimen sent by Herr Höge from Jalapa is, I have very little doubt, the male of *E. mexicana*; it is rather smaller, but in all other respects it agrees fairly well with the female figured by Grote and Robinson.

3. **Eacles splendens,** sp. n. (Tab. XV. fig. 12.)

Male. Primaries slaty-brown, with all the veins reddish-brown, a transverse band of nine primrose-coloured spots extending from the costal margin near the apex to the middle of the inner margin, a square-shaped spot at the end of the cell, and an elongated spot at the base, both pale primrose-colour, the underside the same as above, excepting the inner margin which is broadly banded with primrose-colour from the base to near the anal angle; secondaries from the base to beyond the cell pale primrose-colour clouded with slaty-brown, from just below the cell to the outer margin dark slaty-brown, the veins reddish-brown, the underside pale primrose-colour, except at the apex which is rather broadly banded with slaty-brown, a

well-defined red spot at the end of the cell: head, thorax, and abdomen reddish-brown, the underside of the abdomen pale yellow; legs brown; the front of the thorax and five lines extending from the collar to near the base pale primrose-colour; antennæ reddish-brown. Expanse $4\frac{1}{2}$ inches.

Hab. MEXICO, Guanajuato (*Boucard, in mus. D.*).

This species is closely allied to the North-American *E. regalis* (Fabr.) well figured by Grote and Robinson (Ann. Lyc. New York, viii. t. 12), from which it differs in the entirely different coloration of the secondaries; in having the thorax striped, and the yellow marks at the base entirely absent; and also in the general greyer colour of all the wings. *E. splendens* appears to be very rare, I have only seen a single male example which was brought home by Boucard upon his return from Mexico some years ago.

DRYOCAMPA.

Dryocampa, Harris, in Hitchcock's Report on the Geology &c. of Massachusetts, p. 591 (1834); Walker, Cat. vi. p. 1495.

The name *Dryocampa* was first used by Harris for *Phalæna senatoria*, Abbot and Smith, and *Bombyx rubicunda*, Fabr., but without definition; characters were given it by Walker (loc. cit.), who included in it six species, all of them from America. The range of the genus extends from the United States to Brazil.

1. **Dryocampa dissimilis.** (Tab. XV. figg. 9 ♂, 10 ♀.)

Adelocephala dissimilis, Boisd. Ann. Soc. Ent. Belge, xv. p. 93 [1].

Hab. MEXICO, Oaxaca [1], Jalapa (*Höge*).

I am indebted to Mons. C. Oberthür for his kindness in sending me Boisduval's type of this species for comparison. The figures are taken from fresh specimens from Jalapa, where it appears to be common. I have only seen specimens from the above-mentioned localities.

2. **Dryocampa assimilis,** sp. n. (Tab. XV. fig. 5.)

Primaries and secondaries uniform reddish-brown, the secondaries a shade the darkest; the underside slightly pinkish brown; a small white dot at the end of the cell of the primaries: head, antennæ, thorax, and abdomen reddish-brown, exactly the same colour as the wings. Expanse 2 inches.

Hab. MEXICO, Santa Ana in Chihuahua (*Buchan-Hepburn*).

"In Oak Woods" (*Buchan-Hepburn*). This species is most nearly allied to *D. dissimilis*, from which it is at once distinguished by its uniform colour.

ADELOCEPHALA.

Adelocephala, Herrich-Schäffer, Sammlung aussereur. Schmett. p. 78, t. 17. figg. 77, 78.
Othorene, Boisduval, Ann. Soc. Ent. Belge, xv. p. 82.

This genus now contains about fifteen species, all from Tropical America; seven have been recorded from our country, four of which are only known to me by description. Boisduval's genus *Othorene* will not stand, he having founded it upon *Adelocephala*

cadmus, Herrich-Schäffer, and also including in it *A. jason*, from Mexico, *A. fallax*, from Brazil, *A. mexicana*, from Oaxaca, and *A. wardi*, from Brazil. *Adelocephala* I think will have to be divided, the typical species having pectinated antennæ in both sexes, those of the *A. albolineata* group being only pectinated in the males; I have not sufficient material, however, to be certain how far this character holds good.

1. **Adelocephala leucostigma.**

Adelocephala leucostigma, Boisd. Ann. Soc. Ent. Belge, xv. p. 85 [1].

Hab. MEXICO, Oaxaca [1]; GUATEMALA [1].

I include this species on the authority of Boisduval; I have not seen the insect, neither have I received any specimens from our country that answer to his description.

2. **Adelocephala isias.**

Adelocephala isias, Boisd. Ann. Soc. Ent. Belge, xv. p. 92 [1].

Hab. MEXICO [1].

Unknown to me.

3. **Adelocephala albolineata.**

Adelocephala albolineata, Grote & Robinson, Proc. Ent. Soc. Phil. vi. p. 7, t. 1. fig. 7 (♂) [1].
Adelocephala ruspa, Boisd. Ann. Soc. Ent. Belge, xv. p. 93, t. 3. fig. 1 [2].

Hab. MEXICO [1], Oaxaca [2], Mexico city (*Höge*).

Of this beautiful species I have examples of both sexes before me; the female is considerably the larger, but in other respects identical with the male. Apparently rare, I have only seen a very few specimens.

4. **Adelocephala quadrilineata.**

Adelocephala quadrilineata, Grote & Robinson, Trans. Am. Ent. Soc. i. p. 11, t. 1. fig. 2 (♀) [1].

Hab. MEXICO [1].

5. **Adelocephala boisduvali.** (Tab. XVI. figg. 1 ♀, 2 ♂.)

Adelocephala boisduvalii, Doumet, Revue et Mag. Zool. 1859, p. 266 (♂) [1]; Walk. Cat. xxxii. p. 574 [2].
Othorene mexicana, Boisd. Ann. Soc. Ent. Belge, xv. p. 84 [3].

Hab. MEXICO, Presidio (*Forrer*), Oaxaca [3].—AMAZONS, Parà [1 2].

I am indebted to Mons. C. Oberthür for the loan of the type of Boisduval's *Othorene mexicana* (fig. 1); I have very little doubt that it is the female of *Adelocephala boisduvali*, first described from a Parà specimen. The male specimen figured is from Presidio.

6. **Adelocephala jason.**

Othorene jason, Boisd. Ann. Soc. Ent. Belge, xv. p. 83 [1].

Hab. MEXICO [1].

Unknown to me.

7. **Adelocephala högei,** n. sp. (Tab. XVI. fig. 9, ♂.)

Primaries yellowish-brown, speckled with dark brown, crossed by two transverse dark brown lines (the first midway between the base and the end of the cell, the second beyond from the apex to the middle of the inner margin), the outer margin slightly shaded with pink, two silvery-white spots at the end of the cell (the first round, nearest the costal margin, the second triangular); secondaries rose-pink, darkest from the inner margin to beyond the middle: head, antennæ, thorax, and abdomen yellowish-brown; legs brown. Expanse 2½ inches.

Hab. Mexico, Valladolid in Yucatan (*Gaumer*), Jalapa (*Höge*).

This beautiful species is allied to *A. subangulata*, Herr.-Schäff., from South Brazil.

SYSSPHINX.

Syssphinx, Hübner, Verz. bek. Schmett. p. 143.
Syssisphinx, Walker, Cat. vi. p. 1503.
Psephophœctes, Grote & Robinson, Trans. Am. Ent. Soc. i. p. 5.

This genus only contains a single species. The sexes differ greatly, the males to some extent resembling certain Sphingidæ (*Smerinthus*).

1. **Syssphinx molina.**

Phalæna-Bombyx molina, Cram. Pap. Exot. iv. pp. 25, 221, t. 302. figg. E. F. (♀), t. 396. fig. B. (♂)[1].
Syssphinx molina, Hübn. Verz. bek. Schmett. p. 143[2].
Syssisphinx molina, Walk. Cat. vi. p. 1503[3].
Psephophœctes simulatilis, Grote & Robinson, Trans. Am. Ent. Soc. i. p. 6, t. 1. fig. 1 (♂)[4].
Adelocephala grandis, Grote & Robinson, loc. cit. p. 8, t. 1. fig. 7 (♀)[5].
Ceroderes molina, Boisd. Ann. Soc. Ent. Belge, xv. p. 84[6].

Hab. Mexico[4 5] (*W. H. Edwards*); Costa Rica (*Van Patten, Gabb, mus. D.*); Panama, Volcan de Chiriqui (*Arcé, in mus. D.*), Colon (*Boucard, mus. D.*).—Guiana, Surinam[1 2 3]; Brazil[3 6]; West Indies, Trinidad.

This species is found over a very extended range of country. I have a fair series of specimens before me showing a considerable amount of variation in colour; the examples from Costa Rica are the darkest and agree fairly well with Cramer's figure, in which the costal portion of the primaries is far too highly coloured, but in all other respects they are identical. The specimens from the State of Panama agree well with *Psephophœctes simulatilis* and *Adelocephala grandis* of Grote & Robinson; I have not the slightest doubt that they are sexes and should be referred to Cramer's species, an insect that appears to have been quite overlooked by Messrs. Grote & Robinson.

COLORADIA.

Coloradia, Blake, Proc. Ent. Soc. Phil. ii. p. 279, t. 7 (1863).

This genus was described upon a single species (*C. pandora*, Blake) found at Pike's Peak, Colorado; we now add two others from Central America.

1. **Coloradia clazomenia,** sp. n. (Tab. XVI. fig. 5.)

Primaries and secondaries uniform brownish-black, the veins rather darker, the primaries with an indistinct greyish marginal band extending from the apex to the anal angle: head, thorax, abdomen, legs, and antennæ brownish-black. Expanse $3\frac{1}{2}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

2. **Coloradia marathusa,** sp. n. (Tab. XVI. figg. 3 ♂, 4 ♀.)

Male. Primaries and secondaries dark reddish-brown, lightest near the base of the primaries; the primaries with a slightly greyish transverse line crossing from the costal margin to the anal angle, and with several obscure dark markings between it and the outer margin; the secondaries rather darker; the underside of both primaries and secondaries much lighter: head and thorax dark brown; abdomen dark reddish-brown above, much paler beneath; antennæ and legs dark brown.

Female. Primaries and secondaries uniform pale brown, the wings thinly clothed with scales: head and thorax dark brown; abdomen pale yellowish-brown; antennæ and legs brown. Expanse, ♂, $2\frac{1}{2}$ inches; ♀, $3\frac{1}{4}$ inches.

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*).

I am a little doubtful if this species should be placed in the genus *Coloradia*; the neuration is very similar, the only difference being, so far as I am able to see, a rather shorter cell in the secondaries. The primaries are somewhat shorter than in the other species. I have only seen two examples, one of each sex.

Fam. SATURNIIDÆ.

COPAXA.

Copaxa, Walker, Cat. v. p. 1235.

This genus was formed by Walker upon three species (*C. canella*, *C. decrescens*, and *C. expandens*), from Tropical South America. Six species, including the two last named, inhabit our country; several others, one of which is very closely allied to *C. expandens*, are also known from West Africa.

1. **Copaxa decrescens.**

Copaxa decrescens, Walk. Cat. v. p. 1237[1]; Maassen & Weymer, Beitr. zur Schmett. ff. 44, 45.

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*), Bugaba (*Champion*).—COLOMBIA, Bogota[1] (*mus. D.*); BRAZIL, Rio Janeiro[1].

This insect appears to be rare in our country; I have only seen a very few examples. The coloured figures of Maassen and Weymer are poor, and show the light markings very much more distinctly than they are in the examples before me.

2. **Copaxa multifenestrata.**

Euphranor multifenestrata, Herr.-Schäff. Samml. aussereur. Schmett. pp. 61, 84, t. 96. f. 551[1].

Hab. MEXICO, Jalapa (*Höge*), Cordova (*Rümeli*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*mus. Staudinger*).

This species is common in Mexico. Walker, in his Catalogue, erroneously places *C. multifenestrata* as a synonym of *Cicula trifenestrata*, an Indian species, with which it has nothing whatever to do.

The long series of specimens before me show considerable variation in colour, as well as in the number of clear spots; as a rule the males are always darker than the females; some of the females are identical with Herrich-Schäffer's figure. Herrich-Schäffer gives "Africa?" [1] as the locality of his specimen.

Examples of this species from Mexico are labelled "*Saturnia polythyris*, Boisd.," in the Paris Museum; but I cannot find that Boisduval described it under this name.

3. **Copaxa simson.**

Copaxa simson, Maassen & Weymer, Beitr. zur Schmett. f. 77 (♂) [1].

Hab. PANAMA [1].

This fine species is only known to me from Maassen and Weymer's figure.

4. **Copaxa trötschi,** sp. n. (Tab. XVII. fig. 3, ♂.)

Primaries and secondaries reddish-brown, shaded with pinkish-grey scales; the costal margin of the primaries from the base to about the middle black, the black extending in the form of a band, and, crossing by the end of the cell, reaches the outer margin, a black transverse band from the extreme apex to the inner margin and nearest to the anal angle, all the veins dusky, a transparent spot at the end of the cell; secondaries crossed by three blackish bands, the first near the base, the second beyond the cell, and the third submarginal, a transparent spot at the end of the cell: head and thorax greyish; antennæ very light brown; abdomen pale reddish-brown, the anal segments greyish; legs pale reddish-brown. Expanse $4\frac{1}{2}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, Ribbe, in mus. Staudinger*).

This species is allied to *Copaxa simson*, Maass., from which it is easily distinguished by its much smaller size and duller colour, and by its not possessing the feathery black markings on the primaries, as shown in the figure of that species. A second specimen in Dr. Staudinger's collection is considerably duller in colour than the specimen figured.

Both examples are much rubbed and in very poor condition.

5. **Copaxa expandens.**

Copaxa expandens, Walk. Cat. v. p. 1238 [1]; Maassen and Weymer, Beitr. zur Schmett. f. 79 (♂) [2].

Hab. PANAMA [2], Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA (*Dyson*) [1].

Only a single specimen of this fine species was obtained by Mr. Champion.

6. **Copaxa lavendera.**

Saturnia lavendera, Westw. P. Z. S. 1853, p. 160, t. 32. f. 3 (♀) [1]; Ann. & Mag. Nat. Hist. 2nd ser. xv. p. 297 [2]; Walk. Cat. vi. p. 1274 [3].

Copaxa plenkeri, Feld. Wien Ent. Monats. iv. p. 112, t. 1. f. 3 [4]; Walk. Cat. xxxii. p. 527 [5].

Copaxa lavendera, Maassen & Weymer, Beitr. zur Schmett. f. 78 [6].

Hab. MEXICO [3 4 5 6] (*Coffin* [1 2]), Cordova (*Höge*).

All the specimens that I have seen and that have been described of this species are females. There is no doubt that the insect described as *Copaxa plenkeri* by Dr. Felder is referable to this species; a comparison of his figure with those of Professor Westwood and Maassen and Weymer proves that they are almost identical. The single Mexican example before me differs from all of them in having a wide brownish-black band on the secondaries from the inner margin to the ocellus. In the Paris Museum there is a specimen of a species of this genus labelled "*Saturnia canellæ*, Boisd." (a description of which I am unable to find) from Mexico, which may possibly be the male of *C. lavendera*. In my notes, made in 1881, I find:—"Very like *S. lavendera*, Westw., in markings, but a rich reddish-brown colour."

Professor Westwood (*loc. cit.*) states that a female example of this insect was reared from a large green spiny larva, found on a poplar trunk.

SAGANA.

Sagana, Walker, Cat. v. p. 1234.

Walker founded this genus for the reception of *Saturnia sapatoza*, Westw., an insect inhabiting Colombia, and which, on the authority of two specimens in the Oxford Museum labelled "Mexico," we somewhat doubtfully include in our fauna.

1. Sagana sapatoza.

Saturnia sapatoza, Westw. P. Z. S. 1853, p. 163, t. 33. f. 1 (♂)[1]; Ann. & Mag. Nat. Hist. 2nd ser. xv. p. 299[2].

Sagana sapatoza, Walk. Cat. v. p. 1235[3].

Hab. MEXICO (*mus. Oxford*).—COLOMBIA, Bogota [1 2 3].

This curious little insect does not seem closely allied to any described species.

AUTOMERIS.

Automeris, Hübner, Verz. bek. Schmett. p. 154.

Io, Boisduval, Ann. Soc. Ent. Belg. xviii. p. 206 (partim).

Nine species were placed under this generic name by Hübner. The genus now contains a very large number of species; in our country it is well represented by upwards of twenty species; but Tropical South America seems to be its head-quarters. I have described as new six species, all of which are figured. It is quite possible, however, that one or more of these may have been named by Walker; but, owing to the types of several species (*A. memusæ*, *A. cinerea*, *A. pyrrhomelas*, *A. vagrans*, and *A. submacula*) having been lost from the late Mr. Saunders's collection, now in the Oxford Museum, I am unable to speak positively. As it is quite impossible to make out the species with any certainty from Walker's descriptions, I have thought it advisable to describe and name all the undetermined species from our country. As Boisduval, in his monograph

of the genus *Io*, does not include any of Walker's species, in all probability many of those he described as new had previously been named by Walker. The range of the genus is from the United States to South Brazil.

The larva is known of many of the species; most of them are described as being furnished with branching spiny hairs, which, owing to their poisonous or urticating nature, cause considerable irritation or even wounds when handled. The larvæ appear to be gregarious in their earlier stages and easy to rear. These large species of Saturniidæ are comparatively seldom captured in the perfect state; it is only by rearing the larvæ that many examples can be obtained.

1. **Automeris janus.**

Phalæna Attacus janus, Cram. Pap. Exot. i. p. 100, t. 64. ff. A, B [1].
Bombyx janus, Fabr. Sp. Ins. ii. p. 169; Oliv. Enc. Méth., Ins. v. p. 27, 14, t. 69. f. 7.
Automeris janus, Hübn. Verz. bek. Schmett. p. 154.
Saturnia metzli, Sallé, Rev. et Mag. Zool. 1853, p. 171, t. 5. f. 1 [2].
Hyperchiria metzli, Walk. Cat. vi. p. 1280 [3].
Hyperchiria janus, Walk. loc. cit. p. 1284 [4].
Io janus, Boisd. Ann. Soc. Ent. Belg. xviii. p. 208 [5].
Io mestli, Boisd. Ann. Soc. Ent. Belge, xviii. p. 208 [6].

Hab. Mexico [2 6], Orizaba [3], Jalapa (*Höge*); Guatemala [4]; Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Guiana, Surinam [1 4 5], Cayenne [5].

I am indebted to Mons. C. Oberthür for the loan of the type of *Saturnia metzli*; I have compared it with a long series of specimens of *A. janus*, and cannot see any reason for separating it from that species. *A. janus* varies to some extent in colour, but in no other respect, the Mexican specimens, as a rule, being much the palest. The example from the State of Panama has the primaries a darker brown than the Mexican specimens, and agrees well with Cramer's figure.

M. Sallé [2] describes and figures the larva, and remarks upon the poisonous urticating nature of the branching spiny hairs with which it is furnished; he gives *Platanus occidentalis* and *Erythrina rubra* as food-plants.

2. **Automeris junonia.**

Hyperchiria junonia, Walk. Cat. xxxv. p. 1944 (♂) [1].
Hyperchiria titania, Feld. Reise Nov. Lep. t. 85. f. 8, Erkl. der Taf. 75 bis 107, p. 5 (♂) [2].

Hab. Central America (*Salvin, mus. Felder*) [2].—Colombia, Bogota [1].

Walker's type, now in my own collection, agrees well with Felder's figure.

3. **Automeris rubrescens.**

Hyperchiria rubrescens, Walk. Cat. vi. p. 1281 [1].

Hab. Mexico, Jalapa (*Höge*); Guatemala [1]; Honduras (*Dyson*) [1]; Nicaragua, Chon-

tales (*Belt*); COSTA RICA (*Boucard, in mus. D., Van Patten*); PANAMA (*mus. Oxford*).

The Mexican specimens are larger and brighter in colour than the type from Guatemala. In our country this species appears to be common and widely distributed.

Walker records a large dark variety from Honduras and Venezuela [1], in which the exterior band is undulating and more remote from the ocellus: the Honduras specimen is, I believe, *A. arminia*, Cram.; the one from Venezuela is a distinct species.

4. **Automeris banus.** (Tab. XVI. fig. 8, ♀; Tab. XVII. fig. 1, ♂.)

Io banus, Boisd. Ann. Soc. Ent. Belge, xviii. p. 212 (♀) [1].

Hab. MEXICO [1]; PANAMA, Volcan de Chiriqui 2000 to 4000 feet (*Arcé, in mus. D.*, ♂; *Champion*, ♀).

I am much indebted to Mons. C. Oberthür for the loan of Boisduval's type. I have not the slightest doubt that the specimen sent by Arcé from Chiriqui is the male of *A. banus*, the underside of the two insects being identical. The female specimen sent by Mr. Champion is considerably darker brown in colour, owing to its being in very fresh condition; in other respects it does not differ from Boisduval's type. This species is allied to *A. rubrescens*, Walker.

5. **Automeris cinctistriga.**

Hyperchiria cinctistriga, Feld. Reise Nov. Lep. t. 89. f. 4, Erkl. der Taf. 75 bis 107, p. 5 (♂)[1].

Io cinctistriga, Boisd. Ann. Soc. Ent. Belge, xviii. p. 216 [2].

Hab. GUATEMALA, Chiacam, San Juan in Vera Paz (*Champion*); COSTA RICA, Cache (*Rogers*).—COLOMBIA [1], Bogota; AMAZONS.

This species is allied to *A. salmone*, Cram., but I think distinct; from Guatemala I have only seen female specimens.

Boisduval [2] says he has not seen a specimen of this species, and describes it from Felder's figure; he gives Central America as the locality. Felder, however, gives Bogota.

6. **Automeris zurobara,** sp. n. (Tab. XVII. fig. 2, ♀.)

Female. Brown, the primaries crossed by two narrow yellowish lines (the first near the base, the second extending from the apex to the inner margin), and with a darker brown spot at the end of the cell; the underside reddish-brown, with a large black discal spot (in the centre of which is a small white dot), and a brown line (bordered on the outer side with dark brown) extending from the apex to the inner margin near the middle; secondaries reddish-brown, fawn-colour along the exterior border, near which is a slender undulating black yellow-bordered band, the ocellus is large, round, bordered with black, the centre black with a white streak through the middle; the underside reddish brown, with a small white discal spot and a brown line extending from the apex to the inner margin: head and thorax dark brown; abdomen yellowish-brown; antennæ and legs brown. Expanse 3 inches.

Hab. PANAMA (*Ribbe, in mus. Staudinger*).

This species is quite distinct; it is allied to *A. cinctistriga*, Felder.

7. **Automeris cecrops.** (Tab. XVI. fig. 7, ♂.)

Io cecrops, Boisd. Ann. Soc. Ent. Belge, xviii. p. 224[1] (♂ ♀).

Hab. Mexico [1] (*mus. Staudinger*).

I am indebted to Mons. C. Oberthür for the loan of Boisduval's type to figure. A single male example from Mexico, in Dr. Staudinger's collection, agrees fairly well with the type, only differing in being paler and yellower in colour.

8. **Automeris montezuma.**

Io montezuma, Boisd. Ann. Soc. Ent. Belge, xviii. p. 224[1].

Hab. Mexico [1].

This species is quite unknown to me. The following is the description:—"Taille et port de *Cecrops* mâle. Ailes supérieures grises avec la base un peu plus foncée; la raie extra-basilaire un peu sinuée; la marque sous-costale indiquée par des points noirâtres, la ligne ordinaire brune se terminant assez loin de la point apicale. Ailes inférieures avec le disque rosé, la base et le bord abdominal garnis d'une villosité rose: un œil discoïdal noir coupé par un croissant blanc; en arrière de l'œil, une raie noire, semi-circulaire; tout le bord extérieur gris, divisé par une raie obsolète un peu plus obscure. Dessous des ailes grisâtre; celui des supérieures avec un très petit œil obsolète pupillé de blanc; celui des inférieures avec un œil semblable, mais un peu plus grand; une raie brunâtre, commune sur le tiers postérieur des quatre ailes. Corselet brun. Abdomen d'un brun rose.—Mexique. Mus. nation."

9. **Automeris averna,** sp. n. (Tab. XVII. fig. 4, ♀.)

Female. Primaries pinkish-brown, shaded with dark brown, an indistinct brown line near the base, a narrow brown line, margined with yellow, extending from the apex across the middle of the wing to the inner margin; the underside pale brown, with a central dark brown band extending from the apex to the inner margin, and a large discal black spot (visible from above) in the centre of which is a very small white spot; secondaries pale pinkish-brown from the base to the middle and along the costal and outer margins, from the middle to the black line bright chrome-yellow, the ocellus large, fawn-coloured, bordered with black, the centre black, thickly speckled with white, a wide dark brown submarginal band extending from the apex to the anal angle; the underside pale brown, shaded with darker brown near the apex: head and thorax dark brown, the sides of the latter with a tuft of white hairs; abdomen reddish-brown; antennæ and legs brown. Expanse $3\frac{1}{2}$ inches.

Hab. Mexico (*Boucard, in mus. D.*).

This species differs from all others known to me in the form of the ocelli on the secondaries; I have only seen a single example, a female.

10. **Automeris boucardi,** sp. n. (Tab. XVII. figg. 5 ♂, 6 ♀.)

Male. Reddish-brown, the primaries with a white tuft at the base, an irregular narrow line crossing the wing from the costal to the inner margin, the discal spot indistinct, a reddish line, bordered on the outer side with pale fawn-colour, extending from the apex to the middle of the inner margin, beyond which, and nearer the outer margin, is a pale band; the underside uniform reddish-brown, the discal spot large, black, with a white spot in the centre; secondaries pinkish-brown, from the middle to the black submarginal line bright yellow, the ocellus black, the centre slightly shaded with fawn-colour and thickly irrorated

with white scales, the outer margin banded with two shades of reddish-brown; the underside uniform reddish-brown, with a small white discal spot: head and thorax dark brown; abdomen black above, the underside and anus reddish-brown; antennæ pale yellowish-brown; legs brown. The female similar to the male, but larger, and considerably (the primaries especially) paler in colour. Expanse, ♂, $2\frac{3}{4}$ inches; ♀, $3\frac{1}{2}$ inches.

Hab. Costa Rica (*Boucard, in mus. D., Van Patten*).

The figures are from Costa-Rican specimens obtained by M. Boucard, and contained in my own collection. Van Patten found this species pretty commonly, but all the specimens he obtained are in very bad condition.

11. **Automeris zugana,** sp. n. (Tab. XVII. fig. 7, ♂.)

Male. Pale fawn-colour, the primaries slightly darker at the base and along the costal margin, the discal spot very indistinct, a central narrow brown line extending from the apex to the middle of the inner margin, a whitish tuft at the base; secondaries pinkish fawn-colour, pale yellow round the ocelli, the black submarginal line very narrow, the ocelli small, black, with a few white scales in the centre; the underside of both wings uniform pale brown, the discal black spot on the primaries small, and with a white dot in the centre: head, thorax, antennæ, and legs brown; abdomen above black, banded with pale fawn-colour, the anus and underside pale brown. Expanse $2\frac{3}{4}$ inches.

Hab. Panama, Volcan de Chiriqui (*Arcé, in mus. D.*), Bugaba 800 to 1500 feet (*Champion*).

This species is allied to *A. boucardi.* I have only seen four specimens, all of which are males.

12. **Automeris zozine.** (Tab. XVII. fig. 8, ♀.)

Female. Primaries reddish-brown, shaded with darker brown and pale rose-colour, an indistinct transverse brown line near the base, the discal spot dark brown, edged with black, a transverse brown line, edged with paler brown on the outer side, extending from the apex to the middle of the hind margin; secondaries bright yellow, the costal and outer margins pale brown banded with darker brown, the abdominal margin pinkish-brown, and with a waved submarginal black line, the ocelli large, black, with a few bluish-white spots in the centre; the underside of both wings reddish-brown, the discal spot on the primaries large, black, with a very small white dot in the centre, two indistinct waved brown lines cross both primaries and secondaries: head, thorax, and legs dark brown; abdomen black, banded with pale brown above, with a few reddish hairs about the base; the underside and anus pale brown, thickly covered with short pale brown hairs; antennæ yellowish-brown. Expanse $3\frac{3}{4}$ inches.

Hab. Mexico, Jalapa (*Höge*).

I have only received a single example, a female, of this fine distinct species.

13. **Automeris saturata.** (Tab. XVII. fig. 9, ♂.)

Hyperchiria saturata, Walk. Cat. vi. p. 1282 (♂)[1].

Hab. Mexico [1], Jalapa (*Höge*).

This beautiful species appears to be very rare. I have only received two specimens, one of each sex; the two examples in the British Museum are both males.

14. **Automeris leucane.**

Gamelia leucane, Hübn. Samml. exot. Schmett. iii. t. —.

Hyperchiria acutissima, Walk. Cat. xxxii. p. 533 (♂)[1].

Io leucane, Boisd: Ann. Soc. Ent. Belge, xviii. p. 234[2].

Hab. Mexico [1] (*Sallé*), Vera Cruz [2], Jalapa (*Höge*, *Morrison*); Panama, Bugaba 800 to 1000 feet (*Champion*).—Ecuador.

Walker appears to have overlooked Hübner's figures, and described the insect as *Hyperchiria acutissima*, and does not mention *A. leucane* in his catalogue.

I have before me a large series of specimens, many of which agree perfectly with Hübner's figures, and also with Walker's type in the British Museum. These individuals vary considerably in colour, some examples being very pale, others quite dark brown; in some the ocelli and the submarginal band on the secondaries are reddish-brown, but more generally dark blackish-brown. In Mexico this species appears to be very common, but from other localities I have only seen a few specimens.

15. **Automeris metea.**

Phalana-Bombyx Attacus metea, Cram. Pap. Exot. iv. p. 27, t. 304. f. A [1].
Automeris metea, Hübn. Verz. bek. Schmett. p. 155.
Attacus irene, Cram. Pap. Exot. iii. p. 96, t. 249. figg. B, C [2].
Automeris irene, Hübn. loc. cit. p. 155.
Io irene, Boisd. Ann. Soc. Ent. Belge, xviii. p. 235 [3].
Hyperchiria metea, Walk. Cat. vi. p. 1291 (♂)[4].

Hab. Panama, Volcan de Chiriqui (*Arcé*, *in mus. D.*). — Guiana, Surinam [1 2 3]; Bolivia [4]; Brazil [4].

A single male example of what I believe to be this species was sent by Arcé; it agrees well with Cramer's figure, but is brighter in colour.

The larva is described as "Verte, garnie d'épines palmées, marquée le long des pattes, à partir du troisième segment, d'une raie jaune bordée de pourpre en dessus," and is said to feed upon the pomegranate (*Punica granatum*).

16. **Automeris larra.** (Tab. XVIII. fig. 1, ♂.)

Hyperchiria larra, Walk. Cat. vi. p. 1293 (♂ ♀)[1].

Hab. Costa Rica (*Van Patten*).—Colombia; Brazil, Rio Janeiro [1].

This fine species is allied to *A. boops*, Felder, and *A. zelleri*, Grote and Robinson. From our country I have only received one example, a male, which, apart from its larger size, agrees well with the type and the specimen before me from Bogota.

17. **Automeris belti,** sp. n. (Tab. XVIII. figg. 3, ♂; 2, ♀.)

Male. Primaries yellowish-brown, shaded near the base and beyond the middle with darker brown, the discal spot indistinct, a curved brown line, bordered inwardly with paler brown, crossing the wing from the apex to the middle of the inner margin; the underside pinkish-brown, with a small black discal spot (in the centre of which is a white dot), and an indistinct black line from the apex to near the anal angle; secondaries pinkish fawn-colour, almost pink at the base and along the inner margin, the black line wide and bordered on the outer edge with yellow, the disc pale yellow, the ocelli large, dark brown, broadly bordered with black, the centre thickly speckled with bluish-white scales; the underside pinkish-brown, with two submarginal indistinct black lines, the discal spot white: head and thorax dark brown; abdomen pinkish-brown; antennæ pale yellowish-brown; legs dark brown. The female agrees well with the

male in all the markings, but is considerably darker in colour and very much larger. Expanse, ♂, $3\frac{3}{4}$ inches; ♀, $5\frac{1}{4}$ inches.

Hab. NICARAGUA, Chontales (*Belt*); PANAMA (*mus. Oxford*).

This fine species was first received from the late Mr. Belt, after whom I have named it. The Panama specimens in the Oxford Museum are identical. Four individuals are all I have seen of the species.

18. **Automeris arminia.**

Phalæna-Bombyx Attacus arminia, Cram. Pap. Exot. iv. p. 126, t. 356. f. A[1].
Bombyx arminia, Oliv. Enc. Méth., Ins. v. pp. 35, 41.
Automeris arminia, Hübn. Verz. bek. Schmett. p. 155.
Automeris arminia, Hübn. loc. cit. p. 155.
Hyperchiria arminia, Walk. Cat. vi. p. 1307[2].
Io arminia, Boisd. Ann. Soc. Ent. Belge, xviii. p. 219 (♂ ♀)[3].

Hab. HONDURAS (*Dyson, mus. B.*).—GUIANA, Surinam [1 2 3], Cayenne [3].

The specimen of this species, from Honduras, in the British Museum collection, is in very poor condition. Walker, in his Catalogue, included it with *A. rubrescens*, from which it is clearly distinct. I have not any further evidence of its occurrence in our country. The larva is described as entirely brown in colour, with brownish-ferruginous branched spines; it is said to feed upon species of *Citrus*, and on *Punica granatum*.

19. **Automeris hebe.**

Hyperchiria hebe, Walk. Cat. xxxii. p. 536 (♂)[1].
Hyperchiria iris, Walk. loc. cit. p. 537 (♀)[2].
Io orestes, Boisd. Ann. Soc. Ent. Belge, xviii. p. 220[3]; Möschler, Verh. z.-b. Ges. Wien, xxvii. p. 677[2].

Hab. MEXICO, Oaxaca (*Sallé* [1 2], *in mus. B.*) [1 2].—GUIANA, Cayenne [3]; BRAZIL, Paramaribo [2].

The only specimens I have seen of this species are the types in the British Museum.

20. **Automeris crudelis.**

Hyperchiria crudelis, Maassen & Weymer, Beitr. zur Schmett. f. 117[1].

Hab. MEXICO [1]; GUATEMALA, San Gerónimo (*Champion*); NICARAGUA, Chontales (*Belt*); COSTA RICA (*Van Patten*).

A dull-coloured species, the dullest in the genus.

21. **Automeris schausi.**

Hyperchiria schausii, H. Edwards, Papilio, iv. p. 16 (♂ ♀)[1].

Hab. MEXICO, State of Vera Cruz (*Schaus* [1]).

This species is unknown to me. Mr. Edwards does not state, in his description, to what species it is allied.

22. **Automeris eogena.**

Hyperchiria eogena, Feld. Reise Nov. Lep. t. 89. f. 3, Erkl. der Taf. 75 bis 107, p. 5 (♀)[1].
Io eogena, Boisd. Ann. Soc. Ent. Belge, xviii. p. 225 (♂ ♀)[2].
Hab. MEXICO [1 2].

This comparatively small species is only known to me from Dr. Felder's figure. Boisduval states (*loc. cit.*) that many examples were reared by M. E. Deyrolle, from whom he received specimens of both sexes.

23. **Automeris io.**

Bombyx io, Fabr. Syst. Ent. p. 560; Sp. Ins. ii. p. 173; Mant. Ins. ii. p. 110; Ent. Syst. iii. 1, p. 419 (nec Cramer).
Phalæna io, Abbot & Smith, Nat. Hist. Lepid. Ins. of Georgia, i. p. 97, t. 49. ff. 1, 2 (♂ ♀)[1].
Hyperchiria varia, Walk. Cat. vi. p. 1278[2]; Strecker, Lep. Rhop. and Heter. p. 138, t. 15. ff. 15 (♂), 16 (♀)[3].
Hyperchiria tilith, Strecker, loc. cit. p. 139, t. 15. f. 17 (♀)[4]; Grote, List of North-American Moths, 1882, p. 20. no. 304.
Hab. NORTH AMERICA [2 3], Georgia [1 4].—MEXICO, Presidio (*Forrer*).—COLOMBIA; GUIANA, Surinam.

Bombyx-Attacus io, Cramer, is quite distinct from *Bombyx io,* Fabr., and is, I believe, correctly placed in the genus *Hyperchiria* by Hübner.

This common species ranges over a very wide extent of country. I have a good series before me, the examples from Mexico being very much smaller than those from North America. A specimen from Bogota in my own collection agrees perfectly with others from North America.

The larva is figured by Abbot and Smith (*loc. cit.*); it is said to feed on maize, dogwood (*Cornus*), sassafras, &c.

As the two following species possibly inhabit our country, I think it best to include them:—

24. **Automeris godarti.**

Io godartii, Boisd. Ann. Soc. Ent. Belge, xviii. p. 219[1].
Hab. ? MEXICO [1].—? COLOMBIA [1].

Unknown to me. Described from a single male individual of uncertain origin, but supposed to be from Mexico or Colombia.

25. **Automeris mendosa.** (Tab. XVI. fig. 6, ♀.)

Io mendosa, Boisd. Ann. Soc. Ent. Belge, xviii. p. 225[1].
Hab. ? MEXICO[1].—? COLOMBIA [1].

I am indebted to Mons. C. Oberthür for the loan of Boisduval's type of this very distinct species. Our figure is taken from this specimen.

A. mendosa, like *A. godarti*, is described from a single specimen, a female, of uncertain origin, and also supposed to be from Mexico or Colombia.

GAMELIA.

Gamelia, Hübner, Verz. bek. Schmett. p. 155.
Io, Boisduval, Ann. Soc. Ent. Belg. xviii. p. 206 (partim).

Hübner placed three Tropical-American species (*G. abasia*, *G. abas*, and *G. irmina*) under this generic name; the first two are known from our country. Boisduval does not retain *Gamelia* as distinct from his genus *Io*. Three other species are now placed in the genus.

Gamelia is easily distinguished from *Automeris* by the shorter and broader primaries, the apices of which are very sharply pointed, and by the secondaries being considerably longer and not so much rounded at the anal angle.

1. Gamelia abasia.

Phalæna-Bombyx Attacus abasia, Cram. Pap. Exot. iv. p. 103, t. 344. ff. A, B, C[1].
Io abasia, Boisd. Ann. Soc. Ent. Belge, xviii. p. 242[2].

Hab. Panama, Bugaba 800 to 1000 feet (*Champion*).—Guiana, Surinam [1 2], Cayenne [2].

A single female specimen of this species was obtained in the State of Panama by Mr. Champion. The insect figured by Hübner as *G. abasia* is quite distinct from *G. abas*, Cramer. Walker, in his Catalogue, has placed these and two other species under *Hyperchiria abas*, but upon comparison of the figures it will be seen that they belong to distinct species.

The larva and pupa are figured by Stoll (Suppl. Cramer, Pap. Exot. p. 79, t. 17. figg. 1, 2); the former is described as follows:—"D'un beau violet avec une raie laterale d'un jaune d'or près des pattes. Tout son corps est garni d'épines rameuses, très longues sur les trois premiers anneaux et sur le dernier, et assez courtes sur le reste du corps." It is said to feed on the guava (*Psidium pyriferum*).

2. Gamelia anableps.

Phalæna-Bombyx Attacus abas, Cram. Pap. Exot. i. p. 121, t. 77. f. B (♀)[1]. (Nec f. A, ♂.)
Hyperchiria anableps, Feld. Reise Nov. Lep. t. 89. f. 7, Erkl. der Taf. 75 bis 107, p. 5 (♀)[2].
Io anableps, Boisd. Ann. Soc. Ent. Belge, xviii. p. 244[3].
Io episcopus, Boisd. loc. cit. p. 243[4].

Hab. Mexico[3].—Colombia, Bogota; Ecuador; Guiana, Surinam [1 4]; Amazons [1].

I include this species solely on the authority of Boisduval: I have no other evidence of its occurrence in our country. I believe Cramer has figured two distinct species as the sexes of *Bombyx abas*, Fabr.

Boisduval has renamed the species figured by Cramer (*loc. cit.* t. 77. f. B, ♀) as *Io episcopus*; but, upon comparison with my specimens from Bogota and Ecuador, I feel certain that the species is distinct from *G. abas*, Fabr., and should stand under Dr. Felder's name. Cramer's figure is not very good.

HYPERCHIRIA.

Hyperchiria, Hübner, Verz. bek. Schmett. p. 155 (1816).
Io, Boisduval, Ann. Soc. Ent. Belg. xviii. p. 206 (partim).

Two species (*H. nausica* and *H. io*, from Surinam) were placed under this generic name by Hübner. I take *Attacus nausica*, Cram., as the type of *Hyperchiria*; it differs greatly both from *Automeris* and *Gamelia*.

Walker, in my opinion, erroneously placed these two last-named genera as synonyms of *Hyperchiria*. In our country the genus is represented by a single species, which we now trace northwards to Mexico.

1. **Hyperchiria nausica.**

Phalæna-Bombyx Attacus nausica, Cram. Pap. Exot. iii. p. 97, t. 249. ff. D, E (♀), et t. 303. ff. B, C (♂)[1].
Hyperchiria nausica, Hübn. Verz. bek. Schmett. p. 155; Walk. Cat. vi. p. 1309[2].
Io nausica, Boisd. Ann. Soc. Ent. Belge, xviii. p. 229[3].

Hab. MEXICO, Cordova[1] (*Höge*).—GUIANA, Surinam[1 2 3], Cayenne[3]; BRAZIL[2].

The specimen before me from Cordova agrees well with Cramer's figures D, E, excepting that the abdomen is banded with black on each segment and that the black markings are not quite so distinct; on the underside it is almost identical. The larva, according to Stoll, lives upon *Anacardium giganteum*, and is described as "Verte ou d'un vert pâle, garnie de quatre rangées d'épines rameuses de la même couleur. L dernier segment est marqué d'une petite raie noire et d'une autre incarnate, plus grande, de forme semilunaire."

ANTHERÆA.

Antheræa, Hübner, Verz. bek. Schmett. p. 152; Walk. Cat. v. p. 1239.

This genus now contains a large number of Eastern species; but from the New World I only know of one (*A. chapata*), from Mexico, that I can with certainty refer to it. This last-named species agrees very well generically with the male of *A. mylitta* from Ceylon; the neuration appears to be identical.

Hübner placed three species (*A. mylitta*, *A. paphia*, and *A. jana*) under this generic name, and Walker twenty-one, all Asiatic and African forms. The American species I include in it was placed doubtfully in *Attacus* by Walker.

1. **Antheræa chapata.** (Tab. XIX. fig. 1, ♂.)

Saturnia chapata, Westwood, P. Z. S. 1853, p. 162 (♂)[1]; Ann. & Mag. Nat. Hist. 2nd ser. xv. p. 298.

Attacus (?) *chapata*, Walk. Cat. v. p. 1202[2].

Hab. Mexico (*Coffin*[1 2]; *Boucard, mus. Oxford*), Mexico city (*Höge*).

This species varies greatly in colour; as yet it is only known from Mexico.

ARSENURA.

Arsenura, Duncan, in Jardine's Naturalist's Library, vii. p. 125 (1841); ibid. 2nd edit. xxxii. (Ins. vii.) p. 125 (1852).

Rhescyntis, Hübner, Verz. bek. Schmett. p. 156 (partim); Walk. Cat. vi. p. 1321.

Aricia, Herrich-Schäffer, Samml. aussereur. Schmett. p. 78, t. 51 (nomen præoc.).

Several species are known of this genus, which is widely distributed over the tropical regions of America. The type of *Arsenura* is *A. erythrinæ*. We now record two species from our country; I also place in it, provisionally, a third species (*A. championi*); this latter, when more specimens are obtained, will most probably have to be separated.

1. **Arsenura erythrinæ.**

Arsenura erythrinæ, Merian, Ins. Surin. ii. t. 11; Seba, Mus. iv. t. 21. ff. 1, 2, 5, 6.

Bombyx erythrinæ, Fabr. Sp. Ins. ii. p. 169; Mant. Ins. ii. p. 108; Ent. Syst. iii. 1, p. 411; Oliv. Enc. Méth., Ins. v. p. 27.

Phalæna Attacus erythrinæ, Gmel. ed. Syst. Nat. i. p. 5.

Phalæna Attacus armida, Cram. Pap. Exot. iii. p. 6, t. 197. f. A (♂)[1].

Phalæna Attacus cassandra, Cram. l. c. p. 7, t. 197. f. B (♀)[2].

Arsenura erythrinæ, Duncan, loc. cit. p. 125.

Rhescyntis cassandra, Hübn. Verz. bek. Schmett. p. 156.

Rhescyntis erythrinæ, Hübn. loc. cit. p. 156; Walk. Cat. vi. p. 1324*[3].

Hab. Mexico, Cordova (*Rümeli, Höge*); Costa Rica (*Van Patten*), Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 3000 to 6000 feet (*Champion*).—Colombia; Venezuela[3]; Guiana, Surinam[1 2]; Brazil[3].

This species is found over a very wide range of country. It varies very considerably in colour; Mexican specimens are mostly smaller and darker than those from Colombia, but in other respects they are identical, those from Costa Rica and the State of Panama being more like the Brazilian examples before me.

From Mexico we have received a fine series of specimens, but Mr. Champion only met with a single male example on the Volcan de Chiriqui.

2. **Arsenura arcæi,** sp. n. (Tab. XIX. figg. 2 ♂, 3 ♀.)

Male. Primaries reddish-brown, pale along the costal margin to beyond the middle, the pale brown colour extending from the base over the disc, with three narrow submarginal waved lines which extend from

* The synonymy given is mostly taken from Walker's Catalogue (*loc. cit.*).

near the apex to the inner margin near the anal angle (the first dark brown with fine angular-shaped white dots on the outer edge, the second a whitish line, and the third a bluish-grey band which joins the narrow white line), a black dot on the costal margin near the apex, and several reddish marks close to the apex; secondaries reddish-brown, palest from the base to the middle, the submarginal lines placed as on the primaries; underside of both wings uniform pale drab colour, thickly speckled with minute brown dots, an almost central brown band crossing both primaries and secondaries, the discal spots dark brown, the submarginal white line much more distinct than above, with two small reddish spots in each half-circle of the waved line: head, thorax, abdomen, antennæ, and legs pale brown. The female is considerably larger than the male, much darker in colour, with all the bands and markings very much more distinct (both on the upper and under sides), and the antennæ not so deeply pectinated. Expanse, ♂, $6\frac{1}{4}$ inches; ♀, $7\frac{1}{4}$ inches.

Hab. Panama, Volcan de Chiriqui (*Arcé*, ♂, *in mus. D.*; *Champion*, ♀).

I have named this fine species after Arcé, who discovered it some years ago, and sent me two male examples; from that time till Mr. Champion was fortunate enough to find a specimen of the female, I had not seen any other than the two original males. *A. arcœi* is allied to *A. erythrinæ* and *A. batesii*, and the female closely resembles the insect figured by Herrich-Schäffer as *Aricia aspasia*, but is, I believe, quite distinct from either of these species. In the description I have not noticed the very great difference in the shape of the hind wings in the two sexes, it is best expressed by the figures given.

Found at rest on a tree-trunk (*Persea*) in the dense humid forest west of the Volcan de Chiriqui, at an elevation of about 4000 feet (*Champion*).

3. **Arsenura (?) championi,** sp. n. (Tab. XVIII. fig. 4.)

Primaries and secondaries pale fawn-colour, shaded and banded with darker brown; the primaries thickly speckled with dark brown dots, a brown line near the base crossing from the costal to the inner margin, two narrow dark brown lines at the end of the cell, beyond which the wing is darker brown, a submarginal dark brown band bordered on the outer edge with pale fawn-colour and brownish-purple, a long black streak on the costal margin near the apex, below which is a large reddish-brown mark; secondaries banded with dark brown, corresponding with the primaries, but much darker in colour; underside pale fawn-colour, speckled with dark brown spots, both primaries and secondaries crossed by three or four very indistinct narrow brown lines: head, thorax, and abdomen pale fawn-colour; legs dark brown; antennæ pale yellowish-brown. Expanse 6 inches.

Hab. Costa Rica (*Schenck, in mus. Staudinger*); Panama, Volcan de Chiriqui 4000 feet (*Champion*).

Our figure is taken from the Costa-Rican specimen, which is in fresher condition than the one found by Mr. Champion. The figure will better express the shape of the wings than a description. The two specimens before me are the only examples I have seen of this grand insect; it is not nearly allied to any described species. Dense humid forest west of the Volcan de Chiriqui (*Champion*).

DRACONIPTERIS.

Draconipteris, Hübner, Verz. bek. Schmett. p. 150; Walker, Cat. v. p. 1185.

Walker places this remarkable genus in the Drepanulidæ, at the same time stating

that it has some affinities with the "Saturniidæ" and the "Geometrites." It appears to me much better placed in the Saturniidæ, near the genus *Arsenura*.

A single species only, from Surinam, has been described; this we now trace northwards to Nicaragua.

1. **Draconipteris mirabilis.**

Phalæna Attacus mirabilis, Cram. Pap. Exot. iii. p. 143, t. 272. f. B [1].

Draconipteris mirabilis, Hübn. loc. cit. p. 150; Walk. loc. cit. p. 1186 [2].

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, Volcan de Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*).—GUIANA, Surinam [1], Demerara [2].

The specimen sent by the late Mr. Belt is, I have little doubt, a female; it agrees fairly well with Cramer's figure, but is not quite so dark in colour; the one received from Arcé is a male. The example in Dr. Staudinger's collection (a male) is in very poor condition; it is darker in colour than either of the other specimens before me.

EUDÆMONIA.

Eudæmonia, Hübner, Verz. bek. Schmett. p. 151; Walker, Cat. vi. p. 1265.

Two species were placed under the above name by Hübner; Walker later on describing the genus, and also making it to include the same species, *E. semiramis*, from Honduras, and *E. argus*, from Ashanti and Sierra Leone; a third, *E. jehovah*, from Brazil, has since been added by Mr. Strecker. The species all appear to be very rare and little known; and of *E. jehovah* Mr. Strecker states that he knows of but one example. The very poor specimen of *E. semiramis*, from Honduras, in the British Museum is the only representative I have seen of this genus, remarkable for the enormously long-tailed hind wings.

1. **Eudæmonia semiramis.**

Bombyx semiramis, Fabr. Gen. Ins. p. 277; Sp. Ins. ii. p. 170; Mant. Ins. ii. p. 109; Ent. Syst. iii. 1, p. 413.

Phalæna Attacus semiramis, Cram. Pap. Exot. i. p. 19, t. 13. f. A [1]; Gmel. ed. Syst. Nat. i. p. 5.

Eudæmonia semiramis, Hübn. loc. cit. p. 151; Walk. loc. cit. p. 1265 [2].

Copiopteryx semiramis, Duncan, in Jardine's Nat. Lib. vii. p. 125 (1841); ibid. 2nd edit. xxxii. (Ins. vii.) p. 125 (1852).

Saturnia phœnix, Deyr. Ann. Soc. Ent. Belge, 1869, xii. p. 257, t. 1 [3].

Eudæmonia phœnix, Maassen and Weymer, Beitr. zur Schmett. ff. 5 (♀), 6, 7 (♂) [4].

Aricia phœnix, Feld. Reise Nov. Lep. t. 92. f. 1, Erkl. der Taf. 75 bis 107, p. 2 (♀) [5].

Eudæmonia semiramis, Strecker, Lepid. Rhop. & Het. pp. 93, 101.

Hab. HONDURAS [2] (*Miller, mus. B.*).—COLOMBIA [3 5]; GUIANA, Surinam [1 4]; BRAZIL [4].

I include this species upon the authority of the specimen from Honduras in the British Museum. It seems a little doubtful to me if the species named by Deyrolle is

identical with that of Cramer. Maassen and Weymer's, and also Felder's, figures are coloured dark at the base of the primaries and along the costal margin, in Cramer's figures these parts are quite pale.

ACTIAS.

Actias, Leach, Miscell. ii. p. 25 (1815).
Tropæa, Walker, Cat. vi. p. 1259 (partim).

Leach founded this genus upon two species, *A. luna*, Linn., from North America, and *A. selene*, from India. Three species, including *A. luna*, are known to inhabit our country; others are found in the Old World. The African species seem to me to require separating; the genus *Tropæa*, (Hübn.) Walk., might be retained for these.

1. Actias luna.

Phalæna Attacus luna, Linn. Syst. Nat. i. 2, p. 810; Mus. Lud. Ulr. p. 370; Clerck, Icon. t. 52. f. 2; Cram. Pap. Exot. i. p. 3, t. 2. f. A; Gmel. ed. Syst. Nat. i. p. 5; Abbot and Smith, Ins. Georg. i. pp. 95, 96, t. 48[1]; Drury, Ill. Exot. Ins. i. p. 49, t. 4. f. 1.
Bombix luna, Palis. de Beauv. Ins. Afr. et Am. pp. 133, 134, t. 22. f. 3[2].
Bombyx luna, Fabr. Sp. Ins. ii. p. 170; Mant. Ins. ii. p. 109; Ent. Syst. iii. 1, p. 414.
Tropæa luna, Hübn. Verz. bek. Schmett. p. 152; Walk. Cat. vi. p. 1260[3]*.

Hab. North America[1 2 3].—Mexico, Jalapa (*Höge*).

This common North-American species occurs sparingly in Mexico, but I have not seen it from any locality further south. The specimen from Mexico in the British Museum included by Walker with *A. luna* is quite distinct, and agrees well with his description of *Tropæa dictynna*. The larvæ and pupa of *A. luna* are well figured by Abbot and Smith; the larva is said to feed upon *Liquidambar*, *Diospyros virginiana*, and different kinds of walnut.

2. Actias azteca.

Actias azteca, Packard, Guide to the Study of Insects, sixth edition, p. 298[1].

Hab. Guatemala, West Coast[1] (*mus. Peabody Academy*).

Mr. A. S. Packard (*loc. cit.*) states that this species differs from *A. luna* in its much smaller size, expanding only $3\frac{1}{2}$ inches, shorter fore wings, the apex being much rounded, and with shorter veins, while the "tails" on the hind wings are only half as long as those of *A. luna*. It also differs in having the origin of the first subcostal venule much nearer the discal spot than in *A. luna*, being very near that of the second subcostal venule. It is whitish-green, with markings not essentially differing from those of *A. luna*.

I have not seen this species, but think it quite likely that it is nothing but a dwarf form of *A. luna*. I have in my collection several specimens of *A. luna*, reared in this country, that correspond well with the above description.

* The synonymy given is taken from Walker's Catalogue.

3. **Actias dictynna.**

Tropæa dictynna, Walk. Cat. vi. p. 1264[1] (nec Maassen & Weymer).

Hab. Mexico, Orizaba (*Sallé, mus. Brit.*).—Locality ?[1]

The insect figured by Maassen and Weymer under the above name represents another species, China being given as its locality. I have not the slightest doubt that the species described by Walker (the type of which is in the Oxford Museum) is identical with the Mexican insect in the British Museum, and in all probability came from the same collection.

ATTACUS.

Attacus, Hübner, Verz. bek. Schmett. p. 155; Walker, Cat. v. p. 1200.

Four species were placed under this name by Hübner; Walker on describing the genus included in it no less than twenty species, some of which are, however, now eliminated. *Attacus* is very widely distributed. various species being found throughout Asia, Africa, and Tropical America; the Old and the New World species resemble each other very closely. In our country the genus is well represented by seven species, several of which are also common to Tropical South America.

1. **Attacus hesperus.**

Phalæna Attacus hesperus, Linn. Syst. Nat. p. 809; Mus. Lud. Ulr. p. 367; Cram. Pap. Exot. i. p. 105, t. 68. f. A[1]; Gmel. ed. Syst. Nat. i. pt. 5, p. 2401.

Bombyx hesperus, Fabr. Syst. Ent. p. 557; Sp. Ins. ii. p. 167; Mant. Ins. ii. p. 108; Ent. Syst. iii. p. 408; Oliv. Enc. Méth., Ins. v. p. 24.

Bombyx splendida, Pal. de Beauv. Ins. Afr. et Amér. p. 133, t. 22. ff. 1, 2[2].

Attacus hesperus, Hübn. Verz. bek. Schmett. p. 156; Walk. Cat. v. p. 1209[3].

Attacus splendidus, Clemens, Proc. Acad. Phil. xii. p. 160[4]; Walk. Cat. xxxii. p. 524[5].

Hab. North America, Texas[4 5].—Costa Rica (*Van Patten*), Irazu 6000 to 7000 feet (*Rogers*).—Guiana, Roraima, Surinam[1]; Amazons, Santarem (*Bates*[3]); South-east Brazil[3].—Santo Domingo[2].

This species has a very extended range, but does not appear to be common anywhere. I have not seen a specimen from North America. The insect figured by Palisot de Beauvois as *Bombyx splendida* is, without doubt, the female of *Attacus hesperus.* I have before me specimens of both sexes, agreeing perfectly with Cramer's and the above-mentioned figures.

2. **Attacus orizaba.**

Saturnia orizaba, Westw. P. Z. S. 1853, p. 158, t. 32. f. 2[1]; Ann. & Mag. Nat. Hist. 2nd ser. xv. p. 294[2].

Attacus orizaba, Walk. Cat. v. p. 1201[3].

Hab. Mexico[3] (*Coffin*[1 2]), Cordova (*Rümeli*), Jalapa (*Höge, Morrison*), Guanajuato

(*Boucard, in mus. D.*); GUATEMALA, Polochic valley (*Salvin, mus. Oxford*); COSTA RICA (*Van Patten*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*; *Arcé, in mus. D.*).

This species is not uncommon in Mexico, but becomes rarer southwards. From the State of Panama I have only seen two specimens, one sent some years ago by Arcé and the other quite recently by Mr. Champion; I have no evidence of its occurrence further south. *A. orizaba* varies considerably in colour; the examples from the Volcan de Chiriqui are very much darker and larger in size than those from more northern localities.

3. **Attacus lebeaui.**

Attacus lebeaui, Guérin-Méneville, Rev. et Mag. Zool. 1868, p. 320 [1].

Attacus bolivar, Maassen & Weymer, Beitr. zur Schmett. f. 27.

Hab. MEXICO, Jalapa (*Höge*), Cordova (*Rümeli*); PANAMA, Volcan de Chiriqui 4000 feet (*Champion*; *Ribbe, in mus. Staudinger*).—VENEZUELA, Caracas [1].

We have received a number of specimens of this species from Mexico, where the insect appears to be common. An allied insect, *A. cinctus,* Tepper (Bull. Brooklyn Ent. Soc. v. p. 65, figg. 1, 2), is found near our northern boundary, in Southern Arizona; this species, judging from the figure, is close to *A. lebeaui,* but differs in having the transparent spots nearer the base of the wings.

Very rarely on tree-trunks in the humid forest-region west of the Volcan de Chiriqui (*Champion*).

4. **Attacus jorulla.**

Saturnia jorulla, Westw. P. Z. S. 1853, p. 159, t. 32. f. 1 (♂ ♀) [1]; Ann. & Mag. Nat. Hist. 2nd ser. xv. p. 296 [2].

Attacus jorulla, Walk. Cat. v. p. 1202 [3]; ibid. xxxii. p. 524 [4].

Hab. MEXICO [3], Valladolid in Yucatan (*Gaumer*), Cuantla (*Coffin* [1 2]), Orizaba [4] (*Sallé, in mus. Brit.*).

We have only received a single specimen of this insect from Yucatan. It agrees well with Westwood's figure.

5. **Attacus speculifera.**

Attacus speculifera, Walk. Cat. v. p. 1206 (♂) [1].

Hab. MEXICO [1] (*Glennie*); ? GUATEMALA (*Sallé*); NICARAGUA, Chontales (*Belt*); PANAMA, Volcan de Chiriqui (*mus. Staudinger*).—EAST PERU; BRAZIL [1].

This species is found over a very wide range of country. The specimens from Central America are smaller and brighter in colour than those from Brazil. The Guatemalan insect referred by Walker (Cat. v. p. 1204) to *Attacus aurota,* Fabr., is, I have little doubt, identical with this species; so far as I have been able to ascertain, this specimen is not now in the British Museum.

6. **Attacus arethusa.**

Attacus arethusa, Walk. Cat. v. p. 1204[1].

Hab. PANAMA, David (*Champion*).—COLOMBIA[1]; BRAZIL[1].

A single specimen from the State of Panama, in very bad condition, is apparently referable to this species.

SAMIA.

Samia, Hübner, Verz. bek. Schmett. p. 156; Walk. Cat. v. p. 1222.

Walker, using Hübner's generic name, included four species in this genus. *Samia* is as yet only known from North and Central America. The genus is represented in our country by two species.

1. **Samia calleta.**

Saturnia calleta, Westw. P. Z. S. 1853, p. 161, t. 33. f. 2 (♂ ♀)[1]; Ann. & Mag. Nat. Hist. 2nd ser. xv. p. 297[2].

Samia calleta, Walk. Cat. v. p. 1225[3].

Platysamia polyommata, Tepper, Bull. Brooklyn Ent. Soc. v. p. 66, t. –. f. 3[4].

Hab. UNITED STATES, South Arizona (*Driver*[4]).—MEXICO[3] (*Coffin*[1 2], *in mus. Oxford*; *Glennie*, *Hartweg*, *in mus. Brit.*); GUATEMALA, tablelands (*Salvin*, *in mus. Oxford*).

Closely allied to the North-American *S. cecropia*. Apparently a rare species.

2. **Samia montezuma.**

Saturnia montezuma, Sallé, Bull. Soc. Ent. Fr. 1856, p. xcii[1].

Telea montezuma, Grote, Trans. Am. Ent. Soc. ii. p. 118[2].

Hab. MEXICO[2], Orizaba (*Sallé*[1]).

This species is quite unknown to me. The following is the description:—"Port et taille de la *Saturnia polyphemus*; ailes beaucoup plus découpées et largement dentées surtout aux inférieures; les yeux à peu près semblables, seulement celui des supérieures sensiblement plus arrondi, et celui des inférieures opaque; le bord postérieur de chaque aile est en outre divisé par une ligne noire sinueuse qui devient très large sur les secondes ailes, où elle forme une véritable bande noirâtre irregulière. Des environs d'Orizaba sur le *Platanus occidentalis*. Deux exemplaires."

RHESCYNTIS.

Rhescyntis, Hübner, Verz. bek. Schmett. p. 156; Walk. Cat. vi. p. 1321 (partim).

Eight Tropical-American species were placed in this genus by Walker. As understood here, *Rhescyntis* will include one species (*R. hippodamia*) only; this is now known to extend northwards to the State of Panama.

1. Rhescyntis hippodamia.

Phalæna Attacus hippodamia, Cram. Pap. Exot. ii. p. 43, t. 126. f. B[1].
Bombyx hippodamia, Fabr. Sp. Ins. ii. p. 169; Mant. Ins. ii. p. 109; Ent. Syst. iii. 1, p. 413.
Rhescyntis hippodamia, Hübn. Verz. bek. Schmett. p. 156; Walk. Cat. vi. p. 1322 (♂)[2].

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Surinam[1]; BRAZIL, Rio Janeiro[2].

I include this species upon the authority of a specimen in Dr. Staudinger's collection.

Fam. LASIOCAMPIDÆ.

MOLIPPA.

Molippa, Walker, Cat. vi. p. 1345.

This genus was founded by Walker upon a Brazilian insect, *M. sabina,* Walk. A second species has lately been described from Mexico; judging from the figure of the latter, the genus hardly seems distinct from *Dirphia.*

1. Molippa nibasa.

Molippa nibasa, Maassen & Weymer, Beitr. zur Schmett. f. 121[1].

Hab. MEXICO[1].

This species is quite distinct from *M. sabina,* Walker.

PHRICODIA.

Phricodia, Hübner, Verz. bek. Schmett. p. 187.

Several Tropical-American species are now placed in this genus. Three species inhabit our country.

1. Phricodia avia.

Phalæna Attacus avia, Cram. Pap. Exot. iv. p. 36, t. 307. f. A[1].
Phricodia avia, Hübn. Verz. bek. Schmett. p. 187.
Dirphia avia, Walk. Cat. vi. p. 1349 (♀)[2].

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet, Bugaba 800 to 1500 feet (*Champion*).—COLOMBIA, Bogota (*mus. D.*); GUIANA, Surinam[1 2].

This insect appears to be rare in our country; Mr. Champion only obtained three examples.

2. Phricodia hircia.

Phalæna Attacus hircia, Cram. Pap. Exot. i. p. 49, t. 30. f. G[1].
Phricodia hircia, Hübn. Verz. bek. Schmett. p. 187.
Dirphia hircia, Walk. Cat. vi. p. 1361[2].

Hab. MEXICO, Cordova (*Höge*).—GUIANA, Surinam[1 2].

In Mexico this species is common, but I have not any evidence of its occurrence elsewhere in Central America; in the State of Panama it is replaced by the very closely allied *P. avia*. I think it quite probable that *P. hircia* and *P. avia* will most likely prove to be merely forms of one species, the chief difference being in colour only; *P. hircia* is dark and more strongly marked with grey, *P. avia* of a very much paler and redder tint.

3. **Phricodia arcæi,** sp. n.

Primaries and secondaries uniform pale brown, slightly shaded with yellow; primaries crossed by two very indistinct brown bands; secondaries with a central dark band from the costal margin nearest the apex to the inner margin: head, thorax, and antennæ pale brown; abdomen banded with black and yellow; legs brown. Expanse $4\frac{3}{4}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Arcé, in mus. D.*).

This species is allied to *P. avia*, from which it is easily distinguished by the different position of the dark bands on the primaries, and also by its much paler colour.

ORMISCODES.

Ormiscodes, Blanchard, in Gay's Historia fisica y politica de Chile, Zool. vii. p. 61 (1852).

This genus was instituted by Blanchard for the reception of the Chilian *O. (Bombyx) cinnamomea*, Feistl. [=*O. (Bombyx) crinita*, Blanchard, *op. cit.*, Atlas, Lep. t. 4. f. 4], an insect not considered generically distinct from *Dirphia* by Walker; it includes two Central-American species.

1. **Ormiscodes agis.**

Phalæna Attacus agis, Cram. Pap. Exot. i. p. 49, t. 30. f. F[1].
Bombyx agis, Oliv. Enc. Méth., Ins. v. p. 38.
Dirphia agis, Hübner, Verz. bek. Schmett. p. 153[2]; Walk. Cat. vi. p. 1357.

Hab. MEXICO (*Boucard, in mus. D.*), Jalapa (*Höge*).—GUIANA, Surinam[1 2]; ECUADOR; EASTERN BRAZIL, Pernambuco.

This species appears to be very rare; from our country we have only received two specimens, both males. A female from Ecuador, which only differs from the male in being very much larger, and another male from Pernambuco, are all the specimens of this species that I have received; the latter is considerably paler in colour than the Mexican examples.

2. **Ormiscodes lasiocampina.**

Ormiscodes lasiocampina, Feld. Reise d. Nov. Lep. t. 90. f. 5, Erkl. der Taf. 75 bis 107, p. 7 (♀)[1].

Hab. MEXICO (*Sallé*[1]).

A very distinct species.

DIRPHIA.

Dirphia, Hübner, Verz. bek. Schmett. p. 153; Walker, Cat. vi. p. 1346.

This Tropical-American genus is closely allied to *Ormiscodes* and *Phricodia*; it is represented in our country by eight species, all of which are apparently rare. Walker included in *Dirphia* a large number of species, many of which have subsequently been placed in other genera.

1. **Dirphia semirosea.**

Dirphia semirosea, Walk. Cat. vi. p. 1359[1].

Hab. Mexico[1] (*Hartweg*), Jalapa (*Höge*); Costa Rica (*Van Patten*), Irazu 6000 to 7000 feet, Cache, Rio Sucio (*Rogers*).

A very variable species. Some specimens are very dark brown, almost black, others quite pale brown.

This is apparently a common insect in Costa Rica; but from Mexico we have only received one specimen, a female.

2. **Dirphia citrina,** sp. n. (Tab. XX. fig. 6, ♂.)

Male. Primaries pale pinkish-brown, shaded with darker brown, and crossed from the costal to the inner margin by two narrow yellow lines, upon which are several tufts of white scales; the largest spots are on the costal margin; secondaries uniform pale brownish-yellow, all the veins black, an indistinct line crosses the wing below the middle from the costal to the inner margin; underside uniform pale brownish-yellow, slightly shaded with pink at the apex of the primaries, a whitish central band crossing about the middle of both wings: head, legs, and the underside of the thorax and abdomen pinkish-brown; upperside of the thorax dark brown, with a few long whitish hairs; abdomen rose-colour, banded with black; antennæ brownish-black. Expanse $2\frac{3}{4}$ inches.

Hab. Guatemala (*Boucard, in mus. D.*); British Honduras, R. Sarstoon (*Blancaneaux*).

Two specimens, one brought home by Boucard some years ago, the other received quite lately from Blancaneaux.

This pretty little insect is allied to *D. semirosea*, from which it can be at once distinguished by its smaller size and different colour. The female is unknown.

3. **Dirphia fumosa.**

Ormiscodes fumosa, Feld. Reise d. Nov. Lep. t. 90. f. 3, Erkl. der Taf. 75 bis 107, p. 7 (♂)[1].

Hab. Mexico (*Bilimek*[1]).

This insect is closely allied to *D. semirosea*, and is doubtfully distinct from that species, the only difference being that of colour.

4. **Dirphia högei,** sp. n. (Tab. XX. figg. 10 ♂, 11 ♀.)

Male. Primaries pale brown, shaded with darker brown, and crossed by two pale whitish bands, the first indistinct, the second beyond the cell, extending from the costal to the inner margin, and bordered on the outer edge with dark brown, a submarginal whitish waved band from the apex to the anal angle; secon-

daries uniform pale brown, with an indistinct waved paler submarginal band, all the veins dark brown, the fringe yellow; underside uniform pale brown, both wings being crossed by a dark brown line bordered on the inner edge close to the apex with white, and each with a dark-coloured spot at the end of the cells: head, thorax, and the underside of the abdomen yellowish-brown, the upperside of the latter black banded with yellowish-brown; the anus and antennæ pale yellowish-brown. The female differs from the male in being more uniform in colour, with the bands crossing the primaries very much more indistinct. Expanse, ♂, $2\frac{3}{4}$–$3\frac{3}{4}$ inches; ♀, $3\frac{1}{2}$ inches.

Hab. Mexico, Jalapa (*Höge*).

This insect appears to be common at Jalapa, whence Höge sent a large number of specimens; we have no evidence of its occurrence in any other locality. The female slightly resembles *Ormiscodes lasiocampina*, Felder, though very different from that species, the male of which is unknown. *D. högei* varies considerably in colour and size; several specimens of the male are only $2\frac{3}{4}$ inches in expanse, and much darker in colour. The females do not show any variation.

5. **Dirphia rosea,** sp. n. (Tab. XX. figg. 7 ♂, 8 ♀.)

Male and female. Primaries brown, shaded with rose-colour, a rose-coloured band extending from the costal to the inner margin, the base very dark brown, a semicircular brown patch at the apex, a waved rose-coloured submarginal band extending from the apex to the anal angle, a brown spot bordered with rose-colour at the end of the cell; secondaries bright rose-colour from the base to beyond the middle, from the middle to the outer margin shaded with brown, two indistinct wide waved black lines crossing the wing from the costal margin near the apex to the inner margin near the anal angle, a black line at the end of the cell; underside uniform pale brown, shaded with rose-colour, the black bands as above: head and thorax dark brown; abdomen brown, banded with chrome-yellow, covered with long whitish hairs; antennæ of the male deeply pectinated, of the female simple, pale yellowish-brown; legs dark brown, banded with red. The male is slightly paler in colour and considerably smaller than the female. Expanse, ♂, $2\frac{3}{4}$ inches; ♀, $3\frac{1}{4}$ inches.

Hab. Mexico (*coll. Staudinger*), Jalapa (*Höge*).

A female specimen in Dr. Staudinger's collection is much smaller than those obtained by Herr Höge.

This beautiful insect is not nearly allied to any described species.

6. **Dirphia speciosa.**

Phalæna Attacus speciosa, Cram. Pap. Exot. i. p. 16, t. 107. f. B [1].

Bombyx speciosa, Oliv. Enc. Méth., Ins. v. pp. 38, 52, t. 71. f. 1.

Dirphia speciosa, Hübner, Verz. bek. Schmett. p. 153; Walk. Cat. vi. p. 1363 [2].

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—Guiana, Demerara [2], Surinam [1 2]; Ecuador.

I have only seen a male and female example of this apparently rare species, which we now trace northwards to Costa Rica, from our country; the male is considerably smaller than Cramer's figure of the female. A female specimen from Ecuador in my collection agrees well with the figure, though it is much brighter in colour and rather larger. Dr. Staudinger's example of the female has a white line at the end of the cell of the secondaries, which I can trace on the underside of my Ecuador specimen.

7. **Dirphia menander**, sp. n. (Tab. XX. fig. 9, ♂.)

Male. Primaries light pinkish-red, darker at the base, crossed rather beyond the middle from just below the costal to the inner margin by a narrow white band shaded on the outer edge with black, the veins between the band and the outer margin white; secondaries brownish-black, with a central white band, the veins light up to the central band, the fringe pinkish-white; underside dusky brownish-black, shaded with pink scales, the white bands as above: head and thorax chrome-yellow, shaded with pink; abdomen above chrome-yellow, banded with black; antennæ, the underside of the thorax, and the abdomen black; palpi and legs black. The female is similar to the male, but slightly larger and darker in colour. Expanse, ♂, 3 inches; ♀, $3\frac{1}{4}$ inches.

Hab. NICARAGUA, Chontales (*Belt*, ♂); PANAMA, Volcan de Chiriqui (*Champion*, ♂; *Ribbe, in mus. Staudinger*, ♀).

Three examples, two males and one female. A very distinct species.

8. **Dirphia triangulum.**

Dirphia triangulum, Walk. Cat. vi. p. 1351 [1].

Hab. PANAMA, Volcan de Chiriqui (*mus. Staudinger*).—S.E. BRAZIL, Rio Janeiro [1].

This species is included in our fauna upon the authority of a specimen from the Volcan de Chiriqui in Dr. Staudinger's collection. This example is almost identical with Walker's type in the British Museum, though of a more reddish-brown colour.

HYLESIA.

Hylesia, Hübner, Verz. bek. Schmett. p. 186.

Four Tropical-American species were placed under this generic name by Hübner; *Bombyx falcifera* of the same author (*cf.* Exot. Schmett. ii. t. 192) will, in my opinion, also belong to it. The genus was not adopted by Walker.

In our country *Hylesia* is represented by five apparently rare species.

1. **Hylesia falcifera.**

Bombyx falcifera, Hübner, Samml. exot. Schmett. ii. t. 192.

Hyperchiria myops, Walk. Cat. vi. p. 1312 (♀)[1].

Hyperchiria falcifera, Walk. loc. cit. p. 1380.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe*), near the city (*J. J. Walker*).—BRAZIL[1].

This species varies in colour, some specimens being very much darker than others.

2. **Hylesia continua.**

Hyperchiria continua, Walk. Cat. xxxii. p. 538 (♀)[1].

Hab. MEXICO (*Sallé, in mus. B.*; *Coffin, in mus. Oxford*), Jalapa (*Höge*).

The males before me agree well with the female (the only sex described) in the markings, but they are smaller and considerably brighter in colour.

3. **Hylesia alinda,** sp. n. (Tab. XX. fig. 3, ♂.)

Male. Primaries pale pinkish fawn-colour, crossed about the middle from the costal to the inner margin by two bands of darker brown, a brown spot at the end of the cell and a waved submarginal pale band beyond; the underside as above, but the markings much more indistinct; secondaries pinkish fawn-colour, with two indistinct submarginal lines: head and thorax pinkish-brown; antennæ and abdomen yellowish; legs pinkish-brown. The female is similar to the male, but rather paler in colour and with the markings less pronounced. Expanse, ♂, 2 inches; ♀, $2\frac{3}{4}$ inches.

Hab. Guatemala, San Gerónimo (*Champion*); Panama, Volcan de Chiriqui (*mus. Staudinger*).

The specimen of the female from Chiriqui differs considerably in colour from our male example from Guatemala; it is very much browner, and has not the pinkish shade, but in other respects it is almost identical.

This species is allied to *Hyperchiria continua*, Walker.

4. **Hylesia acuta,** sp. n. (Tab. XX. figg. 1 ♂, 2 ♀.)

Male. Primaries pale brown, with a pinkish shade on the central part, the apex and part of the outer margin shaded with dark brown, a dark brown patch close to the base on the inner margin; secondaries pale brown, slightly darker at the apex, the base yellowish-brown, a small dark brown spot at the end of the cell: head and antennæ pale brown; thorax and the base of the abdomen dark brown; abdomen and anus yellowish-brown; legs dark brown. *Female.* Primaries pinkish-brown, the base, a spot at the end of the cell, and a wide band beyond crossing from the costal margin near the apex to the inner margin dark brown; secondaries uniform pinkish-brown, with a darker mark at the end of the cell, the base of both primaries and secondaries clothed with long dark brown hairs: head, thorax, and abdomen dark brown, thickly clothed with pale yellowish-brown hairs. Expanse, ♂, 2 inches; ♀ $2\frac{1}{2}$ inches.

Hab. North Mexico (*in mus. D. & Staudinger*).

I received, some years ago, a fine series of both sexes of this species from Northern Mexico, but do not know the exact locality. Dr. Staudinger has a male specimen, also without locality. *H. acuta* is a very distinct species.

5. **Hylesia (?) lineata,** sp. n. (Tab. XX. figg. 4 ♂, 5 ♀.)

Male. Primaries pale brown, crossed by two dark brown lines which are edged on the inner side with pale fawn-colour, a submarginal waved line extending from the apex to the anal angle, a dark brown spot at the end of the cell; underside pale fawn-colour, slightly reddish at the base and along the costal margin, a round black dot at the end of the cell, beyond which is a dark brown line crossing from near the apex to the inner margin; secondaries pale fawn-colour, with two dark waved submarginal lines extending from the apex to the inner margin, a dark red spot bordered with black at the end of the cell; underside fawn-colour, palest near the base, and crossed in the middle by a dark brown line: head and thorax pale brown; abdomen yellowish-brown, banded with black; antennæ and legs pale yellowish-brown; antennæ of the male deeply pectinated, those of the female simple. The female is much larger than the male, of a more reddish-brown colour, with all the markings similar but very indistinct. Expanse, ♂, $1\frac{1}{2}$ inches; ♀, $2\frac{1}{2}$ inches.

Hab. Costa Rica (*Van Patten*), Irazu 6000 to 7000 feet (*Rogers*).

This insect is not nearly allied to any known to me; I am a little doubtful if it should be placed in *Hylesia*, the secondaries of the males being rather longer than in any other species of the genus known to me. The female, however, agrees well with the same sex of *Hylesia*.

OXYTENIS.

Oxytenis, Hübner, Verz. bek. Schmett. p. 150; Walker, Cat. v. p. 1181.
Syssaura, Hübner, loc. cit. p. 150 (partim).

This Tropical-American genus is represented in our country by four species. Walker, in his Catalogue, has, I think rightly, included in *Oxytenis* two species, *O. honesta* and *O. zerbina*, both of which Hübner placed in *Syssaura*.

1. **Oxytenis honesta.**

Phalæna Attacus honesta, Cram. Pap. Exot. iv. p. 25, t. 302. ff. C, D[1].
Syssaura honesta, Hübn. Verz. bek. Schmett. p. 150.
Oxytenis honesta, Walk. Cat. v. p. 1182[2].

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR; PERU; GUIANA, Surinam[1 2]; AMAZONS, Parà.

This species ranges over a very wide extent of country; the Amazons region, whence I have received a good series of specimens of both sexes, would, however, appear to be its headquarters. From our country I have only seen two specimens—a male obtained by the late Mr. Belt at Chontales, and a female from the Volcan de Chiriqui in the collection of Dr. Staudinger; the last-named agrees well with the female examples before me from Ecuador, excepting that it is a darker brown (as is also the Chontales male) and rather smaller. In some respects Dr. Staudinger's Chiriqui specimen is like the figure of *O. modesta*, Cramer, though it has not any of the black markings; on the underside it agrees well with the male from Chontales.

2. **Oxytenis lonomica,** sp. n. (Tab. XXI. fig. 1, ♂.)

Male. Primaries and secondaries pale fawn-colour, shaded with dark brown, a narrow reddish line crossing the primaries considerably beyond the middle and extending from the apex to the inner margin near the anal angle, a corresponding line crossing the middle of the secondaries, below this line a series of lunate markings with patches of paler colour on their outer edge, and nearer the outer margin a row of very indistinct darker fawn-coloured spots: head, thorax, and abdomen above the same colour as the primaries; antennæ and legs yellowish-brown; the underside of the abdomen pale yellow, of the primaries and secondaries yellow with all the darker markings considerably more distinct than above. The female is altogether darker than the male, and the spots on the secondaries are very much darker in colour. Expanse $2\frac{1}{2}$ inches.

Hab. GUATEMALA, Volcan de Atitlan (*Champion*); PANAMA (*Ribbe, in mus. Staudinger*).

This insect is most nearly allied to *O. attacina*, Walker, from Colombia.

3. **Oxytenis malecena,** sp. n. (Tab. XXI. fig. 2, ♂.)

Male. Primaries reddish fawn-colour, palest from the base to the middle, where a reddish-brown line crosses from the apex to the inner margin, nearest the base between the reddish-brown line and the outer margin is a second waved line with pale-coloured markings between it and the margin, the surface close to the anal angle is thickly speckled with black scales; secondaries almost uniform reddish fawn-colour, palest at the base, and close to which they are crossed by a narrow reddish-brown line (being a continuation of the

line on the primaries), on the outer margin close to the anal angle are two small black dots; underside of both wings uniform reddish-brown, with the darker lines very indistinct: head, thorax, and abdomen pale fawn-colour; antennæ and legs brown. Expanse $2\frac{3}{4}$ inches.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

This species is allied to *O. lonomica*, but at once distinguished from that insect by its differently coloured underside. The very worn example in Dr. Staudinger's collection is rather greyer in colour, and the markings are not quite so distinct as in the specimens from Bugaba.

4. **Oxytenis beprea,** sp. n. (Tab. XXI. figg. 3, 4.)

Primaries and secondaries dark brown; primaries shaded with grey, a dark brown waved line crossing from the costal to the inner margin close to the base, a straight reddish-brown line crossing from the apex to the inner margin, beyond which is a row of lunate spots, and close to the outer margin a few indistinct dark brown dots; on the secondaries the markings form a continuation of those on the primaries, the submarginal row of dots being rather more distinct; underside pale yellowish fawn-colour, thickly irrorated with darker brown scales, the colour being brightest round the outer margins; both wings with a submarginal dark brown line, this line having a row of dark brown marginal spots on the secondaries: head and thorax greyish-brown (abdomen wanting); antennæ and legs brown. Expanse $2\frac{1}{2}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

I have only seen a single specimen of this insect. On the underside it is quite unlike any other species of the genus known to me.

LONOMIA.

Lonomia, Walker, Cat. v. p. 1191; ibid. vii. p. 1764.

Walker places eleven species in this genus, all of which are from South America; one of these extends northwards into our country, whence we now describe three others.

1. **Lonomia cynira.**

Phalæna-Bombyx cynira, Cram. Pâp. Exot. ii. p. 89, t. 152. f. C[1].

Eacles cynira, Hübn. Verz. bek. Schmett. p. 154.

Lonomia (?) *cynira,* Walk. Cat. vii. p. 1766[2].

Hab. GUATEMALA, Panima in Vera Paz (*Champion*).—GUIANA, Surinam [1 2].

A single male specimen of this species was sent from Vera Paz by Mr. Champion; it agrees well with Cramer's figure, and is the only one I have seen.

2. **Lonomia electra,** sp. n. (Tab. XXI. figg. 7 ♂, 8 ♀.)

Male. Primaries and secondaries uniform pale pinkish-brown, shaded with grey; primaries with two round white spots (placed one above the other) at the end of the cell, and beyond these a whitish line (bordered on the outer side with darker brown) crossing from the apex to the middle of the inner margin; secondaries crossed above the middle and slightly nearest the base by a dark brown line; underside pale pinkish-grey, with the outer margins of both wings shaded with pale brown, two dark brown spots at the end of the cell of the primaries, and a dark brown spot on the costal margin of the secondaries near the apex:

head, thorax, and abdomen above the same colour as the primaries, on the underside very much paler in colour; antennæ pale yellowish-brown; legs pink. *Female* much greyer in colour than the male, and darker brown from the whitish central line to the outer margins of both wings; the underside is also much more shaded and mottled with brown. Expanse, ♂, $3\frac{1}{2}$ inches; ♀, $4\frac{1}{2}$ inches.

Hab. GUATEMALA (*Boucard, in mus. D.*).

Apparently a rare species.

3. **Lonomia concordia,** sp. n. (Tab. XXI. fig. 6, ♂.)

Male. Primaries and secondaries uniform dark yellow, shaded with reddish-brown; primaries with a faint dark-coloured line crossing near the base, two white spots at the end of the cell, and a narrow blackish line (placed nearest the anal angle) crossing from the apex to the inner margin, the blackish line is bordered on the inner edge with pale yellow and between it and the outer margin are several dusky markings; secondaries crossed about the middle by a blackish line, between which and the outer margin is an irregular series of blackish markings; underside pale yellow, with a slightly pinkish shade near the apex of the primaries and about the middle of the secondaries, the outer margins of both wings irrorated with minute black scales, two reddish-brown spots at the end of the cells of both wings and a dark brown spot on the costal margin nearest the apex of the secondaries: head, thorax, and abdomen the same colour as the primaries, anus slightly paler; antennæ pale yellowish-brown; legs reddish-brown. Expanse $3\frac{1}{2}$ inches.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*; *Ribbe, in mus. Staudinger*).

This species is very closely allied to *L. electra*, from which it differs chiefly in colour and in the rather different position of the dark line crossing the wings. I think it quite likely that this insect may be only a southern form of *L. electra*, though the differences seem to be constant in the four male examples before me; but, without knowing the female, I could not include it with that species, and have therefore ventured to describe it.

4. **Lonomia cluacina,** sp. n. (Tab. XXI. fig. 5, ♂.)

Male. Primaries and secondaries dark yellow, thickly irrorated with black scales; primaries crossed by two black lines, the first close to the base, the second beyond the middle crossing from the apex to the middle of the inner margin, between the second line and the outer margin are a number of indistinct pale yellow markings with dusky scales on the inner side, two whitish spots (connected by an indistinct black line) at the end of the cell; secondaries crossed by two black lines, the first near the base, the second about the middle, from the second black line to the outer margin the surface is very thickly speckled with black dots and a number of indistinct pale yellow markings; underside pale greyish-yellow, shaded with greenish-brown, with an interrupted pale yellow submarginal band: head, thorax, and abdomen yellow; antennæ pale brown. Expanse $2\frac{1}{2}$ inches.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

Only a single male specimen of this species was sent. *L. cluacina* is most nearly allied to an undescribed species from South-east Brazil contained in my own collection.

METANASTRIA.

Metanastria, Hübner, Verz. bek. Schmett. p. 186.

Hübner placed three species in this genus; these are:—*M. hyrtaca*, Cram., from Surinam (placed doubtfully in *Lasiocampa* by Walker); *M. aconyta*, Cram., from

Bengal (placed doubtfully in *Dirphia* by Walker); and *M. rubi* (Linn.), from Europe (placed in *Lasiocampa* by Walker). Judging from the figures, I do not think that these insects can be considered congeneric; I therefore have taken *M.* (*Bombyx*) *rubi* as the type. Two species are now known from our country.

1. Metanastria psidii.

Bombyx psidii, Sallé, Ann. Soc. Ent. Fr. 1857, p. 16, t. 1. ff. 2, *a–c* (♂ ♀)[1].
Lasiocampa psidii, Walk. Cat. xxxii. p. 560[2].

Hab. MEXICO[2] (*Boucard*), Cordova (*Sallé*[1]), Jalapa (*Höge*); GUATEMALA, Capetillo (*Champion*).

This insect appears to be common in the State of Vera Cruz, whence we have received many specimens, but only a single example, a male, was sent from Guatemala. *M. psidii* closely resembles the European *M. rubi* (Linn.), but is rather larger and darker in colour, and the pale bands are more curved than in that species.

The larva, of which dried examples are contained in the British Museum, is figured and described by Sallé[1]; it is said to feed upon the guayava (*Psidium*) and on a species of oak.

2. Metanastria mexicana, sp. n. (Tab. XXI. figg. 9 ♂, 10 ♀.)

Male. Primaries pale fawn-colour, darker from the base to about the middle, crossed from the costal margin to the inner margin just beyond the cell by two whitish bands; secondaries very pale fawn-colour: head, thorax, and abdomen pale brown; antennæ reddish-brown. *Female.* Primaries pale fawn-colour, slightly shaded with pink, the pale-coloured bands much wider apart than in the male, and with a small vitreous spot at the end of the cell; secondaries pinkish fawn-colour, with a pale submarginal band extending from the apex to the inner margin; underside as above, but pinker in colour: head, antennæ, and thorax fawn-colour; abdomen and legs pinkish-brown. Expanse, ♂, $2\frac{1}{4}$ inches; ♀, 3 inches.

Hab. MEXICO (*mus. Staudinger*).

The female of this species resembles, to some extent, the figure of *Ormiscodes lasiocampina*, Felder.

I am greatly indebted to Dr. Staudinger for the loan of these specimens; they are the only ones I have seen.

ASBOLIA.

Asbolia, Herrich-Schäffer, Samml. aussereur. Schmett. p. 7; Möschler, Stett. ent. Zeit. xxxiii. p. 359 (1872); Verh. zool.-bot. Ges. Wien, xxvii. p. 671, t. 9. f. 35 (1877).

One of the described species of this Tropical-American genus extends northwards into our region.

1. Asbolia sericea.

Asbolia sericea, Möschl. Verh. zool.-bot. Ges. Wien, 1877, p. 671, t. 10. f. 36[1]; Beitr. Schmett.-Faun. Surinam, ii. p. 43, t. 10. f. 36 (1878).

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—DUTCH GUIANA, Paramaribo[1].

A single specimen obtained by Mr. Champion in Chiriqui agrees fairly well with Möschler's figure, though the wings are not quite so strongly marked; this and a specimen from Guiana in the British Museum are all I have seen of the species.

GLOVERIA.

Gloveria, Packard, Fourth Ann. Report Peabody Ac. Sc. 1871, p. 89; H. Edwards, Papilio, iv. p. 105 (1884).

Dr. Packard placed a single species, *G. arizonensis*, from Arizona, in this genus; since then several others from Mexico have been described by Mr. H. Edwards.

1. Gloveria dentata.

Gloveria dentata, H. Edwards, Papilio, iv. p. 107 (♀)[1].

Hab. Mexico, Jalapa (*Schaus*[1]).

Mr. Edwards states that this species is easily distinguished from *G. arizonensis* by the paler field of the primaries and the very much dentated submarginal band.

2. Gloveria olivacea.

Gloveria olivacea, H. Edwards, Papilio, iv. p. 108 (♂ ♀)[1].

Hab. Mexico, Jalapa (*Schaus*[1]).

The colour of this insect is olive-brown and very different from that of *G. arizonensis*.

3. Gloveria venerabilis. (Tab. XXII. figg. 18 ♂, 19 ♀.)

Gloveria venerabilis, H. Edwards, Papilio, iv. p. 108 (♀)[1].

Hab. Mexico, Jalapa (*Schaus*[1], *Höge*).

Mr. Edwards described only the female. I have received both sexes of what I believe to be this species, the female example agreeing well with the description. The male differs considerably: it is smaller in size, the primaries are much redder in colour, and the secondaries are golden-brown bordered with reddish-brown. I quite agree with Mr. Edwards that in colour and markings the female very closely resembles some specimens of *Lasiocampa pini* (Linn.) of Europe.

4. Gloveria jalapæ.

Gloveria jalapæ, H. Edwards, Papilio, iv. p. 109 (♀)[1].

Hab. Mexico, Jalapa (*Schaus*[1]).

LEBEDA.

Lebeda, Walker, Cat. vi. p. 1453.

Walker included in this genus a large number of Eastern species. In our country *Lebeda* is represented by the single species now described; *L. championi* agrees well

with the male of *L.* (*Odonestis*) *ampla*, Walker, from Silhet, and, indeed, very closely resembles that insect.

1. **Lebeda championi,** p. n. (Tab. XXII. fig. 1.)

Male. Primaries pale brownish fawn-colour, crossed from the costal margin to the inner margin by four indistinct waved darker brown lines; secondaries uniform dark reddish-brown: head, antennæ, thorax, and abdomen the same colour as the primaries; the underside of both wings uniform greyish-brown, and both crossed by two almost central dark brown lines. Expanse $2\frac{1}{2}$ inches.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

LASIOCAMPA.

Lasiocampa, Schrank, Fauna Boica, ii. pt. 2, p. 153 (1802).

Fourteen species were placed in this genus by Schrank.

1. **Lasiocampa thyatira,** sp. n. (Tab. XXII. fig. 2.)

Male. Primaries blackish-brown, with a spot on the costal margin beyond the middle, a round spot at the apex, and a large patch at the anal angle extending almost to the base pale cream-colour; secondaries pale cream-colour, shaded with brown from the costal margin near the middle to the anal angle; on the underside both wings are paler in colour and the secondaries are crossed in the middle by a dark-coloured line: head, thorax, and abdomen pale cream-colour; antennæ dark brown; palpi cream-colour, with a few dark brown hairs close to their base; legs brownish-white. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

This beautiful insect resembles *Thyatira batis* (Linn.), var. *mexicana*, recently described by Mr. H. Edwards, specimens of which were obtained by Mr. Champion from the Volcan de Chiriqui. In neuration *L. thyatira* is almost identical with the European *L. ilicifolia*, but differs slightly in the shape of the anal angle of the primaries. Dr. Staudinger's specimen is the only one I have seen.

2. **Lasiocampa modesta,** sp. n.

Male. Primaries dull fawn-colour, crossed by three indistinct bands of small dark-coloured spots, and with a dark brownish spot at the end of the cell; secondaries uniform dull fawn-colour, with a dark-coloured submarginal row of very minute dots: head, thorax, and abdomen dark fawn-colour; antennæ blackish; legs dark brown; the underside of both wings pale fawn-colour, the outer margin of the secondaries shaded with blackish-brown. Expanse 1 inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

Only one specimen of this small *Lasiocampa* was obtained; it is not very closely allied to any other described species.

ARTACE.

Artace, Walker, Cat. vi. p. 1491.

Four species were included in this genus by Walker, two (*A. punctistriga* and *A. albicans*) from the United States, one (*A. punctivena*) from an unknown locality, and one (*A. bifascia*) from South Africa; the last-named doubtfully included. *Artace* is

probably confined to the New World. I am now able to trace one of the North-American species through our country and southwards to Ecuador.

1. Artace punctistriga.

Artace punctistriga, Walk. Cat. vi. p. 1491 (♂)[1]; Grote, List of North-American Moths, p. 21.
Titya rubripalpis, Feld. Reise Nov. Lep. t. 84. f. 8, Erkl. der Taf. 75 bis 107, p. 9 (♂)[2].

Hab. NORTH AMERICA, Georgia [1].—MEXICO, Jalapa (*Höge*); PANAMA, Volcan de Chiriqui (*Arcé, in mus. D.*), Bugaba 800 to 1500 feet (*Champion*).—VENEZUELA [2]; ECUADOR, Sarayacu.

I see no reason to retain Felder's species as distinct, as this insect is very variable; some specimens being much more strongly spotted with black than others. *A. punctistriga* does not appear to be at all common, though distributed over a very wide extent of country.

TOLYPE.

Tolype, Hübner, Verz. bek. Schmett. p. 189 (partim); Walker, Cat. vi. p. 1466.

Hübner placed three species—*T. orsiloche* (Cram.), from Surinam; *T. velleda* (Stoll), from Georgia and Mexico; and *T. riphea* (Cram.), from Surinam—under this generic name. Walker, in his Catalogue, restricted *Tolype* to one species, *T. velleda*; but since that time others have been described from North America by Messrs. Grote and Fitch. One species only is found in our country.

1. Tolype velleda.

Phalæna Bombyx velleda, Stoll, Suppl. Cram. Pap. Exot. p. 178, t. 41. f. 4 (♀)[1].
Phalæna velleda, Abbot & Smith, Nat. Hist. Lep. Ins. of Georgia, i. p. 103, t. 52 (♂ ♀)[2].
Tolype velleda, Hübner, Verz. bek. Schmett. p. 189; Walk. Cat. vi. p. 1467[3]; Grote, List of North-American Moths, p. 21[4].

Hab. NORTH AMERICA [4], New York [1], Georgia [2].—MEXICO [3].

I include this species in our fauna upon the authority of Walker. The only specimens I have seen from our country are those contained in the National Collection. Both sexes of the perfect insect, and the larva, pupa, and cocoon are figured by Abbot and Smith. The larva is said to feed on the willow-oak and on the persimmon (*Diospyros virginiana*).

GASINA.

Gasina, Walker, Cat. vi. p. 1478.

Walker included in *Gasina* a single species from Parà; this insect appears to be common and very widely distributed. *Pœcilocampa* (?) *nuda* (Cramer), from Surinam, also belongs to this genus.

1. Gasina albicollis.

Gasina albicollis, Walk. Cat. vi. p. 1478[1].

Hab. MEXICO, Jalapa (*Höge*); PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*),

Bugaba 800 to 1500 feet (*Champion*).—ECUADOR; AMAZONS, Parà[1]; SOUTH-EAST BRAZIL.

This species varies slightly, some specimens being considerably whiter than others; *G. albicollis* is, however, very distinct from *G. nuda* (Cramer).

CŒCULIA.

Cœculia, Herrich-Schäffer, Samml. aussereur. Schmett. p. 60, t. 19. ff. 86, 87; Walker, Cat. vi. p. 1404.

In our country this genus is represented by a single species; the Chiriqui insect is closely allied to the type, *C. hella*, from Brazil, figured by Herrich-Schäffer.

1. **Cœculia bella**, sp. n. (Tab. XXII. fig. 3.)

Male. Primaries pale greyish-brown, mottled and banded with grey from the base to about the middle, and with a waved greyish-white submarginal line extending from the costal margin to the anal angle; secondaries pale uniform dull brown, with a very indistinct submarginal waved line: head, thorax, antennæ, and legs brown (abdomen wanting). *Female* considerably larger than the male, and with all the light-coloured markings very much more distinct. Expanse, ♂, $1\frac{3}{4}$ inch; ♀, $2\frac{1}{4}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

The female example before me is without any locality, but I believe it was received by Mr. Salvin with others sent by Herr Ribbe from Chiriqui. The two specimens here described are the only ones I have seen of this species.

HYDRIAS*.

Hydrias, Herrich-Schäffer, Samml. aussereur. Schmett. p. 78, t. 19. ff. 88–91; Walker, Cat. vi. p. 1397.

This genus now contains about twenty species. It is well represented in our country by six species.

1. **Hydrias lignosa.**

Hydrias lignosa, Walk. Cat. vi. p. 1400[1].

Hab. PANAMA (*Ribbe, in mus. Staudinger*).—BRAZIL, Rio Janeiro[1].

The male and female lent me by Dr. Staudinger are the only specimens I have seen from our country.

2. **Hydrias melancholica.**

Hydrias melancholica, Butl. Trans. Ent. Soc. Lond. 1878, p. 82[1].

Hab. GUATEMALA, Teleman (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet, Caldera in Chiriqui (*Champion*).—AMAZONS, Rio Solimoens[1].

Our Chiriqui examples agree well with the type in the British Museum.

* This genus requires a new name, *Hydrias* having been long preoccupied (Ehrenberg, 1830) in Rotatoria.

3. **Hydrias limba,** sp. n. (Tab. XXII. figg. 4 ♂, 5 ♀.)

Male. Primaries brown, palest close to the base, and crossed about the middle by a wide dark brown band edged with paler colour; secondaries uniform slaty-brown, slightly paler at the base: head, thorax, and abdomen dark brown; antennæ and legs brown. *Female* like the male, but larger and slightly redder in colour. Expanse, ♂, 1½ inch; ♀, 2 inches.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

Rogers only obtained a pair of this distinct species; it is allied to *H. guttularis.*

4. **Hydrias guttularis.**

Hydrias guttularis, Walk. Cat. vi. p. 1402[1].

Hab. Mexico, Cordova (*Rümeli*); Honduras (*Dyson*[1]).

We have received a single specimen of this species from Mexico; it agrees well with the type in the British Museum.

5. **Hydrias larunda,** sp. n. (Tab. XXII. fig. 6.)

Male. Primaries reddish-grey, from the base to about the middle dark reddish-brown, bordered by a very narrow black line which has a few white scales on its outer edge; secondaries reddish-grey, darkest at the base and along the inner margin, whitish at the apex: head, thorax, and abdomen reddish-brown; antennæ brown. Expanse 1½ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

Only one specimen of this species was sent; it is allied to *H. guttularis,* from which it is easily distinguished by the very different colour of the wings.

6. **Hydrias laronia,** sp. n. (Tab. XXII. fig. 7.)

Male. Primaries pale brown, crossed about the middle by a wide greyish-white band (widest on the inner margin, where it extends almost to the anal angle), which is itself crossed by a very narrow white line from the costal margin near the apex to about the middle of the inner margin, and near the base by a white line, a brown spot at the end of the cell, and a submarginal row of white lunular markings (edged with darker colour on the inner side) extending from the apex to the anal angle; secondaries pale brown, greyish along the costal margin and near the apex, and with an indistinct white line crossing beyond the middle from the costal margin to near the anal angle (but not reaching the anal margin), and a submarginal band of lunular markings as on the primaries but not so distinct; the underside of both wings uniform pale reddish-brown: head, the front of the thorax, and the antennæ pale brown; thorax brown, with numerous white hairs; abdomen pale brown, with long greyish hairs at the anus; legs brown, with some greyish hairs. Expanse 1½ inch.

Hab. Panama, Bugaba (*Champion*).

Two males of this beautiful insect were obtained by Mr. Champion; *H. laronia* is quite unlike any other species of the genus known to me, but comes nearest to an undescribed form from Ecuador in my own collection.

OCHA.

Ocha, Walker, Cat. vi. p. 1493.

Walker in his Catalogue (*loc. cit.*) included in this genus *O. albida,* from Santo

Domingo, and *O. plagiata*, from Brazil; he also provisionally retained in it *Bombyx bibianca*, Cramer, from Surinam; the last-named has not the least resemblance to the other species and should be placed in another genus. Since that time several others have been added; two inhabit our region and are here described.

1. **Ocha lauda**, sp. n. (Tab. XXII. fig. 12.)

Male. Primaries and secondaries pale greyish cream-colour; primaries darkest from the costal margin to about the middle, with two minute black spots at the end of the cell, three spots close to the apex, a reddish-brown square-shaped patch about the middle close to the outer margin, and several very indistinct narrow greyish lines crossing from the costal margin to the inner margin; secondaries with two small reddish-brown spots at the apex, and two narrow indistinct waved lines above these, the outer margin and the fringe pale cream-colour, the hairs along the abdominal margin slightly yellowish: head, thorax, abdomen, and legs pale yellowish cream-colour; palpi brown above, pale beneath; antennæ blackish. Expanse 1 inch.

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*).

One specimen of this species was obtained by Mr. Champion; it is quite unlike any other known to me.

2. **Ocha lasthenia**, sp. n.

Male. Primaries and secondaries uniform reddish cream-colour, with the markings as in the preceding species, but very much more indistinct, the dark colour on the primaries being entirely absent: head, thorax, abdomen, and antennæ pale cream-colour; legs pale; the anus slightly reddish. Expanse 1 inch.

Hab. MEXICO, Cordova (*Rümeli*).

This insect is closely allied to *O. lauda*, in fact it may only be a variety of that species, but the entirely different colour of the antennæ and several other minute differences have induced me to venture to describe it. Only a male was obtained, the female of *O. lauda* and of this species being unknown.

TRABALA.

Amydona, Walker, Cat. vi. p. 1413 (nomen præoc.).
Trabala, Walker, l. c. vii. p. 1785.

Walker included in this genus numerous species from India, Africa, and South America, his type apparently being *Trabala humeralis* from Port Famine; most of the other species are now placed in other genera. I somewhat doubtfully include in *Trabala* one species from the State of Panama.

1. **Trabala (?) fusca**, sp. n. (Tab. XXII. fig. 11.)

Male. Primaries dark blackish-brown, crossed beyond the middle from the apex to the inner margin by a narrow curved pale brown line which joins a second line at the apex, the second line crossing close to the outer margin and almost reaching the anal angle, the extreme margin pale brown, the fringe alternately dark and light brown; secondaries uniform brown, but not so dark as the primaries: head, thorax, and abdomen blackish-brown, almost of the same colour as the primaries; antennæ and legs paler brown. The female similar to the male, but larger. Expanse, ♂, $1\frac{1}{2}$ inch; ♀, $1\frac{3}{4}$ inch.

Hab. PANAMA, Bugaba (*Champion*), Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

Mr. Champion only obtained a male and a female of this dull-coloured insect. I believe it belongs to the genus *Trabala*, but the wings are so thickly covered with scales that I cannot see the neuration, and therefore do not feel quite certain that I have placed it rightly. The specimen in Dr. Staudinger's collection is much worn and faded, and is considerably paler in colour. *T. fusca* is closely allied to a Brazilian species in my own collection.

APATELODES.

Apatelodes, Packard, Proc. Ent. Soc. Phil. iii. p. 353 (1864); Walker, Cat. xxxv. p. 1935.

1. **Apatelodes vivax.**

Apatelodes vivax, H. Edwards, Papilio, iv. p. 77 [1].

Hab. Mexico, State of Vera Cruz (*Schaus* [1]).

2. **Apatelodes bombycina.**

Parthyris bombycina, Feld. Reise Nov. Lep. iv. t. 95. ff. 11, 12, Erkl. der Taf. 75 bis 107, p. 8 [1].

Hab. Mexico [1].

3. **Apatelodes ardeola,** sp. n. (Tab. XXII. fig. 9.)

Female. Primaries dark reddish-brown, crossed from the costal margin to the inner margin by two bands of a pale greyish colour (slightly pinkish in shade in some lights)—the first band nearest the base, and not quite half the width of the second band, and very much dentated on the basal margin, where it is crossed by a zigzag narrow dark brown line, the second band with a waved narrow indistinct line crossing the middle from a triangular hyaline spot close to the apex to near the anal angle; secondaries bright reddish-brown, lightest at the base and along the costal margin, the anal angle slightly darker, the outer margin greyish: head and thorax dark brown; abdomen reddish-brown, with mixed reddish-brown and greyish hairs; antennæ greyish. The underside of both wings reddish-brown, the apex of the primaries with hyaline spots. Expanse 2 inches.

Hab. Panama, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—Amazons (*Leech, mus. D.*).

This species is allied to the Mexican *A. bombycina*, Felder, though very differently marked on the primaries. The specimen from the Amazons is rather duller in colour, but in all other respects identical with Dr. Staudinger's example.

4. **Apatelodes adrastia,** sp. n. (Tab. XXII. fig. 8.)

Male. Primaries pale fawn-colour, crossed by several very indistinct, slightly darker, bands, and with a reddish-brown spot near the base on the inner margin, a waved narrow dark brown line crossing from the costal margin near the apex to the inner margin close to the anal angle, and a very minute hyaline spot close to the apex; secondaries pale fawn-colour, rather yellower than the primaries, and with a very indistinct whitish central line crossing from the middle of the costal margin to near the anal angle, the line here joining a small reddish-brown patch; the fringe of both wings dull brown; the underside fawn-colour, both wings with a narrow submarginal white line, the secondaries clouded from the base to about the middle with reddish-brown: head, thorax, legs, antennæ, and palpi greyish fawn-colour; abdomen darker, the anus tufted with dark brown. *Female.* Resembling the male, but considerably larger, very much paler in colour, and all the markings much more indistinct. Expanse, ♂, $1\frac{3}{4}$ inch; ♀, $2\frac{1}{4}$ inches.

Hab. Mexico, Cordova (*Höge*), Valladolid in Yucatan (*Gaumer*); Costa Rica (*Van Patten, mus. D.*); Panama, Bugaba 800 to 1500 feet (*Champion*).

This insect is allied to the North-American *A. torrefacta*, Abbot and Smith, but readily distinguished from that species by its larger size and entirely different colour.

The female specimen from Bugaba is considerably the darkest in colour, the primaries having all the markings very much clearer, the secondaries yellower in tint and with the central line more distinct.

5. **Apatelodes heptaloba**, sp. n. (Tab. XXII. fig. 10.)

Male. Primaries uniform reddish-brown, crossed from the costal margin to the inner margin by fine narrow dark brown waved lines, and with a reddish-brown spot on the inner margin nearest the base, and a hyaline dot close to the apex; secondaries uniform pale reddish-brown, with the veins and fringe slightly darker; underside pale reddish-brown, the secondaries with a pale fawn-coloured narrow central band crossing from the costal margin to the inner margin: head, thorax, and abdomen reddish-brown, the thorax with a dark brown central line from the apex to the base; palpi and the front of the underside of the thorax dark brown; antennæ pale brown; legs reddish-brown. Expanse 2 inches.

Hab. GUATEMALA, Quiche Mountains 7000 to 9000 feet (*Champion*).

A single specimen of this insect was obtained by Mr. Champion. *A. heptaloba* is most nearly allied to *A. adrastia*, from which it differs greatly in colour and in the narrow bands on the primaries.

ACRONYCTODES.

Acronyctodes, H. Edwards, Papilio, iv. p. 78 (1884).

Mr. Edwards states that this genus is closely allied to *Apatelodes*, Pack., but differs in the following respects:—"the fore wings are longer and acutely produced at the apex, without the excavation on the margin visible in *Apatelodes*, the posterior margin being more oblique to the internal angle; the feet and legs less densely clothed with hair; the abdomen a little longer; and the palpi shorter and more slender."

1. **Acronyctodes insignata.**

Acronyctodes insignata, H. Edwards, Papilio, iv. p. 78 (♂ ♀)[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*[1]).

Fam. LIMACODIDÆ.

METRAGA.

Metraga, Walker, Cat. v. p. 1129.

Walker included a single species from Venezuela in this genus; this I am now able to trace northwards to Guatemala.

1. **Metraga perplexa.**

Metraga perplexa, Walk. Cat. v. p. 1130[1].

Hab. GUATEMALA (*Boucard, in mus. D.*).—VENEZUELA[1].

A single specimen of this dull-coloured insect was brought home by Boucard from

Guatemala, without any more exact locality; it agrees well with Walker's type in the British Museum.

EURYDA.

Euryda, Herrich-Schäffer, Samml. aussereur. Schmett. p. 58, t. 38. f. 182 (1854); Walker, Cat. vii. p. 1746.

The female sex only of this genus was known to Herrich-Schäffer; the male is a very different-looking insect.

Euryda contains a single species which is widely distributed in Tropical America.

1. **Euryda variolaris.**

Euryda variolaris, Herr.-Schäff. l. c. p. 58, t. 38. f. 182 [1]; Walk. l. c. p. 1746 [2].

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).—COLOMBIA [1]; BRAZIL [2].

Specimens from Rio Janeiro in my own collection are identical with those from our country. It is not unlikely that the insect figured by Cramer, Pap. Exot. ii. t. 185. f. D, under the name of *Phalæna hipparchia*, may be intended for this species; but the figure is so bad and unlike the specimens before me that I think it better to use Herrich-Schäffer's name.

ALPIS.

Alpis, Walker, Cat. v. p. 1094.

Walker included in this genus two species, *A. defoliata*, from Mexico, and *A. xanthopasa* (Sepp), from South America; the same author (*l. c.* xxxv. p. 1935) subsequently adding a third species, *A. contigua*, from Colombia. *A. xanthopasa*, judging from the figure, cannot in my opinion be retained in the same genus.

I have to record four species of *Alpis* from our region.

1. **Alpis defoliata.**

Alpis defoliata, Walk. Cat. v. p. 1094 [1].

Hab. MEXICO [1].

The only specimens I have seen of this insect are the types in the British Museum.

2. **Alpis contigua.**

Alpis contigua, Walk. Cat. xxxv. p. 1935 [1].

Hab. GUATEMALA (*Boucard, in mus. D.*).—COLOMBIA, Bogota [1].

An example of this species was brought home by Boucard from Guatemala; it agrees well with Walker's type, which is now in my own collection.

3. **Alpis alydda,** sp. n. (Tab. XXII. fig. 13.)

Male. Primaries dark sericeous-brown, with the outer margin, from the apex to the anal angle, broadly banded with pale fawn-colour, a series of silvery-white spots (which have black dots on the side nearest the base)

on the inner edge of the pale colour, two black spots close to the apex, and a pale fawn-coloured mark at the end of the cell, the fringe also pale fawn-colour; secondaries uniform pale sericeous-grey: head, thorax, and abdomen very dark brown, thickly clothed with long fawn-coloured hairs; antennæ pale brown; palpi black; legs dark brown. The underside of the wings pale sericeous-grey, the primaries suffused with dark brown along the costal margin and inwards to about the middle. Expanse $1\frac{3}{4}$ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

Two specimens of this fine insect were captured. *A. alydda* is very distinct from, though most nearly allied to, *A. contigua*, Walk.; it is altogether much more brightly coloured.

4. **Alpis salacia,** sp. n. (Tab. XXII. fig. 14.)

Male. Primaries dark dull brown, bordered with paler brown along the outer margin, with two small greyish dots close to the base, a waved narrow greyish line crossing from the apex to the inner margin nearest the anal angle, and a marginal row of small elongate black spots extending from the apex to the anal angle; secondaries blackish-brown, palest at the base and round the outer margin, and with a marginal row of spots as on the primaries; underside of both wings dark brown, palest on the outer margins, and with a marginal row of black spots as above: head, the front of the thorax, and the abdomen dark reddish-brown, thickly clothed with long light brown hairs, a light-coloured band on the front of the thorax crossing to the base of the primaries; antennæ pale fawn-colour; palpi reddish-brown; legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

Only a single specimen of this dull-coloured insect was sent.

SIBINE.

Sibine, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 7, 58, t. 37. f. 176 (1854).

Six species were placed under this generic name by Herrich-Schäffer, but most of them have been since separated into genera by Walker and others.

1. **Sibine chloris.**

Sibine chloris, Herr.-Schäff. l. c. p. 58, f. 176[1].

Hab. Panama, Caldera in Chiriqui 1200 feet (*Champion*). — South America[1], Ecuador.

2. **Sibine norba,** sp. n. (Tab. XXII. fig. 15.)

Male. Primaries uniform dull brown, slightly lighter near the outer margin, with a small green spot on the inner margin close to the base, and a minute black dot at the end of the cell; secondaries uniform pale glossy brown: head, thorax, abdomen, and legs dark reddish-brown; antennæ and palpi black; the underside uniform pale reddish-brown. The female similar to the male, but lighter in colour. Expanse, ♂, $1\frac{1}{4}$ inch; ♀, $1\frac{3}{10}$ inch.

Hab. Panama, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

Mr. Champion obtained a male example of this species; both sexes, however, are contained in Dr. Staudinger's collection.

ECHEDORUS.

Echedorus, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 9, 60, t. 91. ff. 521, 522; Walker, Cat. xxxii. p. 577.

Herrich-Schäffer placed a single species from Mexico under this generic name; *Echedorus* appears to be nearest allied to *Alpis.*

1. **Echedorus mexicanus.**

Echedorus mexicanus, Herr.-Schäff. Samml. aussereur. Schmett. p. 60, t. 91. ff. 521, 522 [1]; Walk. Cat. xxxii. p. 577.

Hab. Mexico [1]; Nicaragua, Chontales (*Belt*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Ecuador; Amazons.

The specimens from Nicaragua agree well with Herrich-Schäffer's figure and with the example in my own collection from the Amazons; those from the State of Panama and Ecuador are much smaller and slightly darker in colour at the apex of the primaries.

2. **Echedorus nanus,** sp. n. (Tab. XXII. fig. 16.)

Female. Primaries light greyish fawn-colour, mottled and marked almost as in *E. mexicanus,* with a dark marking close to the apex, and a reddish-brown subquadrate patch about the middle of the inner margin extending across to the cell; secondaries uniform very pale fawn-colour, slightly darker along the inner margin; the underside as above, excepting that the dark brown mark on the primaries is hardly visible: head, thorax, and abdomen greyish fawn-colour, a few long black hairs along the centre of the latter; antennæ and palpi grey. Expanse $1\frac{1}{2}$ inch.

Hab. Mexico, Jalapa (*Höge*).

It is quite probable that this insect will prove to be the female of *E. mexicanus*; it differs so much, however, in colour and in the darker markings that, without further evidence, I prefer to treat it as distinct, and have therefore given it a name.

SCIATHOS.

Sciathos, Walker, Cat. iii. p. 752.

Walker included in this genus *S. punctigera* (Stoll), from Tropical America; this is the only described species.

1. **Sciathos punctigera.**

Phalæna Bombyx punctigera, Stoll, in Cram. Pap. Exot. v. p. 151, t. 34. f. 1 [1].

Sciathos punctiger, Walk. Cat. iii. p. 752 [2]; ibid. vii. p. 1711.

Isochroma fallax, Feld. Reise Nov. Lep. t. 83. ff. 18, 19, Erkl. der Taf. 75 bis 107, p. 7 [3]; Stretch, Cist. Ent. ii. p. 14.

Hab. Nicaragua, Chontales (*Janson*); Panama, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Ribbe*).—Colombia [3]; Guiana, Surinam [1]; Brazil [2].

This species is found over a very extended range of country, though apparently rare. I have received only a few specimens.

The insect figured by Stoll is very much darker in colour than any of the specimens before me; but I have not the slightest doubt that all should be referred to the same species. Our examples from the State of Panama are identical with Felder's figures, which were taken from Bogota specimens.

DALCERA.

Dalcera, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 7, 59, t. 38. f. 180; Walker, Cat. v. p. 1106.

This Tropical-American genus is represented in our country by three species, one of which was originally described from Rio Janeiro; these insects remind one very much of the Laparidæ.

1. **Dalcera alba**, sp. n.

Male. Primaries white, slightly hyaline and tinged with pale brown along the inner margin; secondaries uniformly white: head, thorax, and abdomen brownish-white; antennæ pale brownish-yellow; legs pale brown. *Female* considerably larger than the male; the primaries slightly browner along the costal margin, but with not quite so much colour along the inner margin. Expanse, ♂, $\frac{1}{2}$ inch; ♀, 1 inch.

Hab. Mexico, Presidio (*Forrer*); Guatemala, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

One example from each locality.

D. alba is most nearly allied to an undescribed species from Bolivia in my own collection.

2. **Dalcera mesoa**, sp. n.

Primaries chrome-yellow, with the centre of the wing from the base almost to the outer margin dull lead-colour; secondaries uniform chrome-yellow: head, thorax, and abdomen yellow; legs brownish-yellow; (antennæ wanting). The underside of both wings uniform pale yellow, the darker colour on the primaries hardly visible. Expanse $\frac{3}{4}$ inch.

Hab. Panama, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

The two specimens of this pretty little species are in very poor condition; I believe both are males.

3. **Dalcera ochracea ?**

Dalcera ochracea, Walk. Cat. v. p. 1107 [1].

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).—Ecuador; South-east Brazil, Rio Janeiro [1].

The single example received from Costa Rica is in very bad condition, but I believe it belongs to Walker's species; it nearly agrees with specimens from Ecuador in my own collection.

LAGOA.

Lagoa, Walker, Cat. vii. p. 1759; Packard, Proc. Ent. Soc. Phil. iii. p. 333.

Walker included in this genus two North-American species, *L. opercularis* and

L. pyxidifera, both of which are figured by Abbot and Smith (Nat. Hist. Lep. Ins. Georgia, ii. pp. 105, 107, tabb. 53 and 54). From our own country four species are now recorded.

1. **Lagoa superba.**

Lagoa superba, H. Edwards, Papilio, iv. p. 79[1].

Hab. Mexico, State of Vera Cruz (*Schaus* [1]).

According to Mr. Schaus [1] the cocoon of this showy species is spun in a leaf, and is very thick, almost leathery in texture, and the hairs of the caterpillar are very poisonous.

2. **Lagoa ornata,** sp. n.

Male. Primaries dark fawn-colour from the base to beyond the middle and thence to the outer margin pale cream-colour, the costal margin speckled with black scales, a row of indistinct white dots crossing from near the apex to the anal angle, the fringe white; secondaries uniform cream-white; the underside of both wings pale fawn-colour, shaded with brown from the base to beyond the middle: front of the head white, the thorax dark fawn-colour, the abdomen pale cream-colour; antennæ greyish; legs clothed with fawn-coloured hairs. Expanse $1\frac{1}{4}$ inch.

Hab. Mexico, Cordova (*Höge*).

One example only.

3. **Lagoa affinis,** sp. n.

Male. Primaries and secondaries uniform cream-white, a few black scales along the costal margin of the former: head, thorax, and abdomen cream-white; legs and the front of the thorax beneath slightly shaded with brown; antennæ greyish. Expanse $1\frac{1}{4}$ inch.

Hab. Mexico, Valladolid in Yucatan (*Gaumer*).

A single specimen in very poor condition. *L. affinis* is most nearly allied to the North-American *L. opercularis*, Abbot and Smith.

4. **Lagoa ravida,** sp. n. (Tab. XXII. fig. 17.)

Primaries and secondaries white, the primaries shaded with brown from the base to about the middle and beyond crossed from the costal margin to near the inner margin by a row of indistinct brown spots: head and thorax dusky, the abdomen whitish; antennæ and palpi pale brown; legs brown. Expanse 1 inch.

Hab. Mexico, Acapulco (*J. J. Walker*).

A single specimen of this pretty little insect was obtained by Mr. J. J. Walker of H.M.S. 'Kingfisher.'

PARASA.

Neæra, Herrich-Schäffer, Samml. aussereur. Schmett. p. 58, f. 176 (1854); Walker, Cat. v. p. 1138 (nomen præoc.).

Parasa, Horsfield & Moore, Cat. Lep. Ins. Mus. E. I. H. ii. p. 413; Wallengren, Wien. ent. Monatschr. vii. p. 137 (1863).

This genus is very widely distributed throughout Asia, Africa, and Madagascar; it also inhabits the New World. The three Central-American species here described

agree well in the neuration, the structure of the antennæ, and other minor details with *Parasa lepida* (Cramer) from India. A species also occurs in North America.

1. **Parasa laranda,** sp. n. (Tab. XXIII. figg. 1 ♂, 2 ♀.)

Male. Primaries bright pea-green, the base, a spot at the end of the cell, and the outer margin narrowly edged with reddish-brown; secondaries uniform reddish-brown: head, antennæ, palpi, and abdomen reddish-brown; thorax bright pea-green above, reddish-brown beneath; legs pale brown; the underside of both wings uniform red-brown. The female identical with the male, but larger; the wings similarly marked on the upperside, though of a lighter-brown colour beneath. Expanse, ♂, $1\frac{1}{4}$ inch; ♀, $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet, Teleman (*Champion*).

This species seems to be peculiar to Guatemala; our specimens, however, are from widely distant localities, the one on the Pacific slope, the other in the low hot valley of the Rio Polochic.

2. **Parasa imitata,** sp. n. (Tab. XXIII. figg. 3 ♂, 4 ♀.)

Male. Primaries bright pea-green, the base, somewhat broadly, and the outer margin bordered and blotched with reddish-brown; secondaries uniform reddish-brown, slightly paler on the inner margin: the back of the head and the upperside of the thorax bright pea-green; antennæ, palpi, the front of the head, and the underside of the thorax and abdomen dark reddish-brown; legs dark brown; the underside of both wings pale yellow, shaded with reddish-brown. The female is similar to the male but considerably larger. Expanse, ♂, $1\frac{1}{4}$ inch; ♀, $1\frac{3}{4}$ inch.

Hab. COSTA RICA (*Van Patten*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species is closely allied to *P. laranda*, from which it is easily distinguished by the absence of the spot at the end of the cell, and the very much wider brown markings on the base and outer margins of the primaries.

The specimen from Costa Rica appears to be faded; it is very much paler in colour than those from the Volcan de Chiriqui.

3. **Parasa laonome,** sp. n. (Tab. XXIII. fig. 5, ♀.)

Female. Primaries dull green, the base, a round spot at the end of the cell, and the outer margin broadly banded with dark brown; secondaries uniform dark brown: the back of the head and the tegulæ green; the thorax above and beneath, the abdomen, antennæ, palpi, and legs dark reddish-brown; the underside of both wings uniform pale reddish-brown. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A female example of this distinct species was sent by Mr. Champion; the male is unknown.

EUCLEA.

Euclea, Hübner, Verz. bek. Schmett. p. 149 (1816) (partim); Walker, Cat. v. p. 1143; Packard, Proc. Ent. Soc. Phil. iii. p. 336 (nec Boisd.).

This genus now includes a large number of species, most of which are from the New World. Eight species at least inhabit North America, and many others, nearly all of which are undescribed, are found in South America. I have to record five species from our country, three of which are here described.

1. **Euclea urba,** sp. n. (Tab. XXIII. fig. 6, ♂.)

Male. Primaries uniform glossy reddish-brown, with a narrow green streak about the middle of the inner margin; secondaries uniform reddish-brown, slightly paler near the base: head, thorax, antennæ, palpi, and legs dark reddish-brown; abdomen pale brown; the wings uniform pale reddish-brown beneath. Expanse $\frac{2}{4}$ inch.

Hab. Costa Rica, Rio Sucio (*Rogers*).

One example. A pretty little species allied to the North-American *E. cippus* (Cramer).

2. **Euclea determinata,** sp. n.

Male. Primaries dark dull brown, slightly paler near the outer margin, and with three minute silver streaks, below and slightly beyond which are several indistinct dark-coloured markings on the inner margin near the base; secondaries uniform pale glossy brown, with all the veins rather darker brown; the underside of both wings pale reddish-brown: head, thorax, and abdomen dark brown; antennæ reddish-brown; palpi black; legs dark brown. Expanse $\frac{1}{2}$ inch.

Hab. Guatemala, Volcan de Atitlan, San Gerónimo (*Champion*).

This distinct species is allied to the preceding.

3. **Euclea zygia,** sp. n. (Tab. XXIII. fig. 7, ♂.)

Male. Primaries dark blackish-brown, slightly paler near the outer margin; secondaries uniform pale silky-brown, with all the veins rather darker in colour: head, thorax, and abdomen dark brown, the anus with the hairs almost black; antennæ dark brown; palpi black; legs dark brown, with a few greyish hairs; the underside of both wings pale greyish-brown. Expanse $\frac{3}{4}$ inch.

Hab. Guatemala, Senahu, San Isidro 1600 feet (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion; Ribbe, in mus. Staudinger*).

The specimen described and figured is from Dr. Staudinger's collection, it being in very much better condition than any of those collected by Mr. Champion; the Guatemalan examples are very much rubbed, but I believe they represent the same species. Our specimen from Chiriqui is larger than that of Dr. Staudinger, but in other respects identical.

4. **Euclea ——?**

Hab. Mexico, Presidio (*Forrer*).

A single very worn specimen of an apparently distinct species.

5. **Euclea (?) ——?**

Hab. Guatemala, Las Mercedes 3000 feet (*Champion*).

A single example, also in very bad condition; both this and the preceding are too worn to describe.

ROMOSA.

Romosa, Walker, Cat. v. p. 1114.

Walker placed a single species from Honduras in this genus.

1. **Romosa invaria.**

Romosa invaria, Walk. Cat. v. p. 1115 [1].

Hab. HONDURAS (*Dyson* [1], *in mus. B.*).

The type in the British Museum is the only specimen I have seen.

VIPSANIA, n. g.

Male. Body short and stout; proboscis not visible; palpi very long, projecting straight out from the head, the third joint small and club-shaped; antennæ slender, simple, and about half the length of the wings; thorax flat and rather broad; abdomen not extending beyond the wings. Wings rather short and broad, much rounded at the anal angle, the costal margin of the primaries almost straight; the neuration almost as in *Eupalia*, but the cells of both wings considerably shorter. The legs rather long and stout. The female larger than the male, the body slightly longer, and the palpi quite small.

This genus includes a single very distinct species from Mexico and Guatemala; *Vipsania* will be known by the extreme length of the palpi in the male and other characters.

1. **Vipsania anticlea,** sp. n. (Tab. XXIII. figg. 8 ♂, 9 ♀.)

Male. Primaries bright golden-brown, with all the veins dark reddish-brown, and a reddish-brown line crossing the middle from the apex to the inner margin nearest to the base; secondaries uniform dark silky-brown: head and palpi dark reddish-brown; the front of the thorax and the tegulæ bright yellow, the rest of the thorax and the abdomen reddish-brown; legs brown; the underside of both wings pale yellowish-brown, with the veins slightly darker in colour. The female considerably larger than the male and much paler in colour. Expanse, ♂, 1¼ inch; ♀, 1½ inch.

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, Cerro Zunil 4000 feet (*Champion*).

EUPALIA.

Nyssia, Walker, Cat. v. p. 1132 (nec Duponchel).

Eupalia, Walker, Cat. xxxv. p. 1927.

Neomiresa, Butler, Trans. Ent. Soc. Lond. 1878, p. 74.

Thirteen species from various parts of the world were placed in *Nyssia* by Walker. *Eupalia* of the same author, based upon a single species from Bogota, *E. megasomoides* (the type of which is in my own collection), is certainly generically identical with *Nyssia,—E. megasomoides*, indeed, being so closely allied to *E. trimacula* (Sepp) as to be doubtfully distinct therefrom. The name proposed by Butler (*loc. cit.*) is not required; this author gives, on what grounds I know not, *N. argentata* as the type of *Nyssia*, Walk.

In the British Museum there are several specimens, unnamed, agreeing well with Walker's type of *E. megasomoides.* I think it doubtful if the insects from Africa, Madagascar, and India, placed in the genus *Nyssia* by Walker, are generically identical with the New-World species. Three species inhabit Central America, two of which are apparently widely distributed in South America.

1. **Eupalia trimacula.**

Phalæna Bombyx trimacula, Sepp, Ins. Surin. i. p. 97, t. 45 [1].
Nyssia trimacula, Walk. Cat. v. p. 1133 [2].

Hab. MEXICO, Presidio (*Forrer*), Cordova (*Rümeli*), Jalapa (*Höge*); GUATEMALA, Cerro Zunil 4000 feet, San Gerónimo (*Champion*); PANAMA, Bugaba 800 to 1000 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion, Ribbe*).—GUIANA, Surinam [1]; ECUADOR; AMAZONS, Parà [2].

This species is fairly common in our country. I have a large series of specimens before me, none of which are quite so dark in colour as Sepp's figure; I have very little doubt, however, that they belong to the same species. The metallic spots on the primaries vary in number from one to four, and are sometimes unsymmetrical or entirely wanting; in a specimen before me one wing has a single spot and the other wing three spots. This species is found over a very extended range of country, and I think it most probable, when we have received more specimens, that several species now standing as distinct will prove to be nothing but slight local varieties of *E. trimacula.* The larva, pupa, and cocoon are figured by Sepp; the larva is said to feed upon citron and orange trees.

2. **Eupalia argentata.**

Nyssia argentata, Walk. Cat. v. p. 1134 [1].
Neomiresa argentata, Butl. Trans. Ent. Soc. Lond. 1878, p. 74 [2].

Hab. PANAMA, Boquete 3500 feet (*Champion*).—AMAZONS, Juruapuca [2]; BRAZIL [1].

The female example before me from the State of Panama agrees well with the type in the British Museum. Mr. Butler states [2] that the specimen captured by Mr. Trail on the Rio Juruá is smaller and altogether brighter in colour than Walker's type.

3. **Eupalia argentea,** sp. n. (Tab. XXIII. fig. 10, ♂.)

Male. Primaries dark brown, lightest from the base along the inner margin to the anal angle, with a darker brown spot beyond the middle, two waved narrow metallic lines crossing from near the apex to the inner margin, and a dark brown line crossing near the base; secondaries uniform dark blackish-brown, with the fringe yellowish-brown; the underside of both wings dark silky-brown, palest on the outer margins; head, antennæ, palpi, and the underside of the thorax dark brown; thorax and abdomen light yellowish-brown; the legs and underside of the abdomen dark brown; the anus slightly tipped with yellow. The female similar to the male, but larger and considerably paler in colour and not having the metallic lines so distinctly marked. Expanse, ♂, 1¼ inch; ♀, 1½ inch.

Hab. MEXICO, Jalapa (*Höge*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species resembles *E. argentata* (Walker), but is considerably darker in colour, and differs slightly in the form of the primaries. The specimen from Mexico is a female, that from the Volcan de Chiriqui a male.

PEROLA.

Perola, Walker, Cat. iv. p. 920.

Walker founded this genus upon a single species, *P. murina*, from Rio Janeiro, the type of which is now in the British Museum. From our country I have now to add five new species.

1. **Perola daona,** sp. n. (Tab. XXIII. fig. 11.)

Primaries uniform pale fawn-colour, crossed from the apex to about the middle of the inner margin by a narrow brown line and by a submarginal dark brown line from the apex to the anal angle; secondaries uniform dark reddish-brown: head, thorax, antennæ, and legs pale fawn-colour; abdomen reddish-brown. Expanse $1\frac{1}{4}$ inch.

Hab. Costa Rica (*Van Patten*).

One specimen.

2. **Perola dora,** sp. n. (Tab. XXIII. fig. 12.)

Primaries pale silky fawn-colour, thickly irrorated with black scales, more especially near the base and anal angle; secondaries considerably lighter in colour; the underside of both wings uniform very pale fawn-colour: head bright orange-colour; antennæ pale brown; thorax and abdomen glossy fawn-colour, the former dark brown beneath, the latter yellowish near the anus; legs pale fawn-colour. Expanse $1\frac{1}{4}$ inch.

Hab. Panama, Volcan de Chiriqui 2000 to 3000 feet, Caldera in Chiriqui 1200 feet (*Champion*).

This insect is closely allied to an undescribed species from Ecuador in my own collection.

3. **Perola caria,** sp. n. (Tab. XXIII. fig. 13.)

Primaries dark silky fawn-colour, a spot at the end of the cell and a narrow submarginal line dark brown; secondaries still darker in colour: head, thorax, and abdomen pale brown; legs brown. Expanse $\frac{3}{4}$ inch.

Hab. Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

One specimen only of this small dull-coloured species was captured.

4. **Perola elæa,** sp. n. (Tab. XXIII. fig. 14.)

Primaries pale reddish fawn-colour, mottled with a few darker scales, with a narrow black line crossing from near the apex to the inner margin close to the base; secondaries uniform pale fawn-colour, slightly darker at the anal angle; the underside of both wings pale fawn-colour, very silky on the costal margin of the primaries: head, thorax, abdomen, antennæ, and legs pale fawn-colour. Expanse $\frac{3}{4}$ inch.

Hab. Panama, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

This little species is allied to *P. caria*, but quite distinct, the band on the primaries being in an entirely different position.

5. **Perola ceres,** sp. n. (Tab. XXIII. fig. 15, ♀.)

Male and *female.* Primaries pale brownish-grey, shaded with darker brown, with a dark brown line crossing from near the apex on the costal margin to the anal angle, and on the inner side of this a pale greyish band, the latter crossing the end of the cell, where it is joined by a narrow band of the same colour running up

from the base, and from which a short band crosses to the inner margin; secondaries dusky, with the fringe paler in colour: head, thorax, and abdomen pale greyish, the anus rather darker; antennæ pale brown; legs greyish. Expanse, ♂, ¾ inch; ♀, 1 inch.

Hab. MEXICO, Presidio (*Forrer*); GUATEMALA, Senahu, Rio Maria Linda 500 feet (*Champion*).

This species appears to be peculiar to Mexico and Guatemala. The males before me are in very poor condition, but, so far as I can see, they are identical in markings with the female, from a specimen of which sex our figure is taken.

SEMYRA.

Semyra, Walker, Cat. v. p. 1130.

Five species from Tropical America were placed in this genus by Walker; *Semyra* is represented in our country by at least three species, a fourth I provisionally refer to it.

1. **Semyra bella.**

Euryda bella, Herr.-Schäff. Samml. aussereur. Schmett. p. 58, f. 181.

Semyra bella, Walk. Cat. v. p. 1131[1].

Hab. GUATEMALA, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion, Ribbe, in mus. Staudinger*).—SOUTH-EAST BRAZIL, Bahia [1].

The specimens from our country, though slightly darker in colour, agree well with those in my own collection from South-east Brazil.

2. **Semyra finita.**

Semyra finita, Walk. Cat. v. p. 1131[1].

Hab. HONDURAS (*Dyson* [1], *in mus. B.*).

3. **Semyra diversa,** sp. n. (Tab. XXIII. fig. 16.)

Primaries silky reddish-brown, darkest near the apex and at the base on the inner margin, with a narrow white line crossing from the costal margin near the apex to about the middle, a small dark brown spot in the cell, a white interrupted line about the middle of the inner margin, beyond which is a triangular light brown mark, and a narrow pale brown submarginal line from the apex to the anal angle; secondaries pale reddish-brown, slightly darker at the anal angle; the underside of both wings uniform pale reddish-brown: head, thorax, and abdomen dark brown, paler beneath; legs dark brown; antennæ pale brown. Expanse 1¼ inch.

Hab. GUATEMALA, Cerro Zunil 3000 to 4000 feet (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).

This insect is very distinct from any other known to me; the example from Bugaba is in very poor condition, but I have no doubt it is referable to this species.

4. **Semyra (?) diana,** sp. n. (Tab. XXIII. fig. 17.)

Primaries uniform reddish-brown from the base to beyond the middle, and then shaded with blackish-brown to the outer margin; secondaries blackish, slightly hyaline in the middle; the underside of both wings uniform blackish-brown, excepting the costal margins of the primaries which are reddish-brown: head,

antennæ, and palpi reddish-brown; collar, thorax, and abdomen almost black; tegulæ reddish-brown; the underside of the thorax and legs yellowish-brown. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

Only one example was captured of this curious little insect; it is, I believe, a male, but I am doubtful if it is rightly placed in the genus *Semyra*, the primaries being rather more pointed at the apex, and the antennæ not quite so long or so deeply pectinated as in the other species of the genus. On account of the thickness of the scales I am unable to see sufficient of the neuration of the primaries to determine with certainty its exact affinities.

EULIMACODES.

Eulimacodes, Möschler, Verh. zool.-bot. Ges. Wien, xxvii. p. 672 (1877); Beitr. Schmett.-Fauna Surinam, ii. p. 44 (1878).

This genus was founded upon *E. distincta*, Möschl. (*loc. cit.* t. 10. f. 37), from Paramaribo, the same author also including in it *Limacodes scapha*, Harris (*L. undifera*, Walker).

1. **Eulimacodes scapha.**

Limacodes scapha, Harris, List Ins. Mass. (1833)[1]; Report on Ins. Mass. injurious to vegetation, p. 303 (1841); ed. 2, p. 420; Ent. Corr. p. 300, t. 3. f. 8 (larva); Walsh, Proc. Bost. Soc. Nat. Hist. ix. p. 298; Packard, Proc. Ent. Soc. Phil. iii. p. 341[2]; Guide Study Ins. p. 290, f. 219; Stretch, Illustr. of the Zygænidæ and Bombycidæ of North America, p. 200, t. 8. f. 15 (♂).

Limacodes (*Eulimacodes*) *scapha*, Grote, List of North-American Moths, p. 17 (1882).

Eulimacodes scapha, Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 672; Beitr. Schmett.-Fauna Surinam, p. 44.

Limacodes undifera, Walk. Cat. v. p. 1149[3].

Hab. NORTH AMERICA[2], Massachusetts[1].—GUATEMALA, Cerro Zunil 4000 feet (*Champion*); HONDURAS[3].

The larva of *E. scapha* has been described by Dr. Harris and also by Dr. Packard; it is said to feed on walnut. We have received one specimen, a female, of this species from Guatemala.

TALIMA.

Talima, Walker, Cat. v. p. 1120.

A single species, *T. postica*, from Venezuela, was placed in this genus by Walker; this insect we are now able to trace as far north as the Volcan de Chiriqui. A second species (*cf.* Trans. Ent. Soc. Lond. 1878, p. 75) from Tropical South America has been described by Butler.

1. **Talima postica.**

Talima postica, Walk. Cat. v. p. 1121[1].

Hab. PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA[1].

A small dull-coloured insect closely allied to *T. latescens*, Butl., from the Amazons.

ZANOLA.

Zanola, Walker, Cat. v. p. 1173.

This genus was founded by Walker upon a single species, *Z. difficilis*, from Venezuela; its author stating that "*Zanola*, *Ennomos*, and some other genera of Geometridæ appeared to connect the Drepanulidæ with the Geometridæ."

A closely allied form occurs in Mexico.

1. **Zanola harpis**, sp. n. (Tab. XXIII. fig. 18.)

Primaries light chestnut-brown, crossed by three narrow waved black lines which are edged on their inner sides with a pinkish line (the first black line is close to the base, the second beyond the middle, and the third submarginal and almost in the form of a series of lunate markings), and between the first and second black lines is a wide silvery-brown band crossing from the costal margin (where it is widest) to the inner margin, this band running off to a point; secondaries light brown, palest from the apex to the anal angle, and with a narrow almost central dark brown band, shaded on each side with pinkish-brown, crossing from the costal margin near the apex to the inner margin above the anal angle; the fringe of both wings pale whitish-brown; the underside of the primaries pale brown, shaded along the costal margin with darker brown, and crossed from the costal margin near the apex to the inner margin close to the anal angle by two indistinct dark brownish bands; the underside of the secondaries pale pinkish-brown, crossed in the middle by a wide brown band and nearer the outer margin by a narrow waved black line, and with a dark brown patch close to the anal angle: head and thorax dark brown, the abdomen lighter; antennæ, palpi, and legs brown. Expanse 2 inches.

Hab. Mexico, Cordova (*Höge*).

This species is allied to *Z. difficilis*, Walk., but differs considerably in colour and in the position of the bands crossing the primaries.

TARCHON.

Mesotages, Felder, Reise Nov. Lep. t. 95. f. 10 (♀), Erkl. der Taf. 75 bis 107, p. 6 (1874) (nomen præoc.).

This genus was adopted by Felder for the reception of the South-American *Mimallo trilunula*, Herr.-Schäff. A closely-allied species from the State of Panama is here described. Felder's name having been long preoccupied in Hymenoptera (Förster, 1862), I have been obliged to change it.

1. **Tarchon felderi**, sp. n. (Tab. XXIII. figg. 19 ♂, 20 ♀.)

Male. Primaries deep chestnut-brown, palest along the outer margin from the apex to the anal angle, a spot at the end of the cell, one beyond, near the apex, and one at the anal angle pale yellowish-brown, a silvery-white streak beyond the middle on the inner margin; secondaries uniform brownish-black, slightly reddish along the outer margin; the underside of the primaries and secondaries uniform brownish-black, the former with a pale streak at the apex, the latter with a central waved pale line and a small white dot on the inner margin about the middle: head, thorax, and abdomen dark brownish-black, slightly reddish beneath; antennæ black; palpi black above, reddish-brown beneath; legs pale brown. *Female.* Primaries pale chestnut-brown, crossed just beyond the end of the cell by a series of elongated silvery-white spots, these spots forming a broken line from the costal margin to the inner margin, and beyond this line by two bands of lunular marks, the second being submarginal, the spots at the end of the cell as in the male; secondaries uniform brownish-black, but not so dark as in the male, broadly marked with lighter colour at the anal angle; the underside of the primaries from the base nearly to the middle (excepting the

costal margin, which is yellowish-brown) and the outer half pale yellowish-brown, the latter crossed by a narrow dark brown line and by a submarginal row of black lunular marks extending from the apex to beyond the middle but not reaching the anal angle; the underside of the secondaries uniform pale yellowish-brown, a small white dot about the middle of the costal margin, from which a brown waved band crosses to the inner margin, and beyond this band and nearer the outer margin is a narrow waved line of dark brown lunular marks: head, thorax, and the upperside of the abdomen pale reddish-brown, the underside of the latter pale yellowish-brown; front of the head, palpi, and the underside of the thorax dark brown; antennæ black; legs dark brown. Expanse, ♂, 1½ inch; ♀, 2¼ inches.

Hab. PANAMA, Volcan de Chiriqui 4000 feet (*Champion*).

This species is allied to *T. trilunula* (Herr.-Schäff.), from which the male is at once distinguished by the absence of the purple band from the primaries. The female of our insect, when compared with Felder's figure of the same sex of *T. trilunula*, will at once be seen to be very distinct. The sexes of *T. felderi* were captured *in copulâ* by Mr. Champion.

Fam. BOMBYCIDÆ.

COLLA.

Colla, Walker, Cat. xxxii. p. 580.

Walker founded this genus upon a species from Bogota, which he described as *Colla glaucescens.* I have no doubt it is identical with that figured by Drury under the name of *Phalæna* (*Bombyx*) *rhodope*; Walker placed Drury's insect in the genus *Endromis*, from which it is very different in neuration. *C. rhodope* is now known to extend as far north as Mexico.

1. Colla rhodope.

Phalæna Bombyx rhodope, Drury, Ill. Exot. Ins. iii. p. 30, t. 22. f. 3[1].
Endromis rhodope, Walk. Cat. vi. p. 1386[2].
Colla glaucescens, Walk. Cat. xxxii. p. 580[3].

Hab. MEXICO, Paso del Macho (*Höge*).—COLOMBIA, Bogota[3]; ECUADOR; BRAZIL[1 2].

Herr Höge sent one specimen of this fine insect, and also the pupa; the latter is of a dark-brown colour, and enclosed in a silvery-grey silky cocoon.

The specimen from Ecuador in my own collection is considerably smaller than the one from Mexico; the latter agrees fairly well with Drury's figure, and also with the type of *Colla glaucescens*, Walk. I have not seen any specimens from Brazil.

HYGROCHROA.

Hygrochroa, Felder, Reise d. Nov. Lep. t. 95. f. 15, Erkl. der Taf. 75 bis 107, p. 5 (1874).
Anthocroca, Butler, Trans. Ent. Soc. Lond. 1878, p. 78.

This genus was established by Felder upon an Amazonian species, *H. vulnerata*; this insect is identical in neuration with *Anthocroca muscosa* and *A. cuneifera*, Butl., from the same region.

Three species inhabit Central America.

1. **Hygrochroa muscosa.**

Anthocroca muscosa, Butl. Trans. Ent. Soc. Lond. 1878, p. 79, t. 3. f. 5 (no. 148) [1].

Anthocroca cuneifera, Butl. loc. cit. p. 79, t. 3. f. 4 (no. 149) [2].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS [1 2].

The examples from Chiriqui are identical with Butler's types in the British Museum from the Amazons. I have not the slightest doubt but that they represent the sexes of one and the same species, *A. muscosa* being the female and *A. cuneifera* the male.

2. **Hygrochroa casnonia,** sp. n. (*Anthocroca casnonia*, Tab. XXIII. fig. 25, ♂.)

Male. Primaries pinkish fawn-colour, shaded with brown and greenish-yellow, with a dark curved line near the base, a large **V**-shaped mark in the middle of the costal margin, and a narrow dark brown line crossing beyond the middle from the costal margin near the apex to the inner margin close to the anal angle; secondaries reddish fawn-colour, palest along the costal margin and at the apex, crossed by two indistinct waved brownish lines and by a dark brown marginal line; the underside of the primaries pale yellowish-brown, crossed beyond the middle by two narrow dark brown lines; the underside of the secondaries uniform brownish-yellow, somewhat greyish near the anal angle, and crossed beyond the middle from the costal margin to the anal angle by two waved lines of dark brown: head and collar pale yellowish-brown; thorax and abdomen brown, the anus paler; antennæ pale reddish-brown; palpi brown, with yellow tips; legs yellowish-brown. Expanse $1\frac{3}{10}$ inch.

Hab. PANAMA, Bugaba (*Champion*).

This pretty little species is allied to *Anthocroca muscosa*, Butl.

3. **Hygrochroa rutila,** sp. n.

Primaries and secondaries uniform pale fawn-colour, shaded with white, the primaries with a dark brown band crossing from the apex to the inner margin, the band bordered externally with a series of lunular whitish markings; the underside of both wings uniform pale yellowish fawn-colour, with two indistinct narrow brown lines crossing the secondaries from the costal margin to the inner margin near the anal angle: head, thorax, and abdomen pale yellowish fawn-colour; antennæ and legs darker. Expanse $1\frac{1}{4}$ inch.

Hab. NICARAGUA, Chontales (*Belt*).

One specimen. This example is not sufficiently well preserved to figure.

CARTHARA.

Carthara, Walker, Cat. xxxiii. p. 914.

This genus was founded by Walker upon a single species (*C. albicosta*) from the Amazons region; the type is stated to be in the Saunders Collection, but upon a recent visit to the Museum at Oxford I was unable to find it. I have to record three species from our region.

1. **Carthara veca,** sp. n. (Tab. XXIII. figg. 21 ♂, 22 ♀.)

Male. Primaries pale reddish-brown, crossed by four or five indistinct narrow waved dark brown lines, a square-shaped patch close to the base on the inner margin, and a dash of dark brown close to the apex; secondaries uniform pale brown, with several dark brown streaks along the inner margin; underside uniform pale brown, both wings crossed by a central band of narrow double lines of darker brown: head, thorax, abdomen, antennæ, and legs dark brown. *Female* of a much darker brown tint than the male, and with all the markings much more indistinct. Expanse, ♂, $1\frac{1}{4}$ inch; ♀, $1\frac{3}{4}$ inch.

Hab. PANAMA, Bugaba (*Champion*), Volcan de Chiriqui (*Champion*; *Ribbe, in mus. Staudinger*).

Three specimens, one male and two females. *C. veca* is closely allied to an undescribed species from Ecuador in my own collection.

2. **Carthara lividia,** sp. n. (Tab. XXIII. figg. 23 ♂, 24 ♀.)

Male. Primaries greyish-brown, thickly irrorated with greyish scales, the costal two thirds almost white from the middle nearly to the apex, with five dark brown spots on the costal margin (the first four quite small, the fifth in the form of an elongated streak), the outer spot joined by a waved pale-coloured line bordered with black on the inner edge, and three indistinct waved lines crossing from near the costal margin to the inner margin, between the middle and the base; secondaries dark greyish-brown, palest at the base and along the inner margin to the anal angle, the fringe reddish-brown; underside dark greyish-brown, shaded with reddish-brown at the apex of the primaries, the costal margin edged with pale yellowish-brown, and with a small brown dot and also a white dot close to the apex: head and thorax brown, thickly covered with grey and yellowish hairs, the collar dark brown; abdomen dark brown above, much paler beneath, the anus pale yellowish-brown; antennæ, palpi, and legs dark brown. *Female.* Primaries dark brown, speckled with minute greyish scales, a dark brown band crossing near the base from the costal margin to the inner margin, beyond which is a second dark brown band (widest at the costal margin, and then gradually becoming narrower till it reaches the inner margin near the anal angle), an indistinct narrow white zigzag line on the outer edge of the second band; secondaries bright reddish-brown, lightest near the base, with a very indistinct line on the anal angle; underside uniform reddish-brown, crossed by dark lines indicating the dark bands on the upperside: head, thorax, and abdomen dark reddish-brown, with a few greyish hairs on the thorax; antennæ, palpi, and legs dark brown. Expanse, ♂, 1½ inch; ♀, 2 inches.

Hab. PANAMA, Bugaba, Volcan de Chiriqui 3000 to 4000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).

The single male specimen in Dr. Staudinger's collection is considerably brighter in colour than those collected by Mr. Champion.

3. **Carthara drepanoides.**

Pamea (?) *drepanoides,* Walk. Cat. xxxv. p. 1938 [1].

Hab. MEXICO, Jalapa (*Höge*); BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, Las Mercedes 3000 feet (*Champion*).—COLOMBIA, Bogota [1].

The specimens from Guatemala and British Honduras are rather darker in colour, and the markings a little more distinct than in those from Mexico.

ANTICLA.

Anticla, Walker, Cat. v. p. 1174.

A single species, *A. antica*, from Venezuela was placed in this genus by Walker. Two species have been received from our country.

1. **Anticla ortygia,** sp. n. (Tab. XXIII. fig. 26.)

Primaries uniform pale fawn-colour, slightly darker at the apex, and with a minute black dot at the end of the cell; secondaries pale golden-yellow, edged with fawn-colour along the abdominal margin and at the anal angle; the underside of both wings pale yellow, the secondaries with two narrow central brown lines

from the costal margin to the inner margin: head and thorax and the upper- and undersides of the abdomen pale fawn-colour; antennæ and legs darker fawn-colour. Expanse $1\frac{1}{2}$ inch.

Hab. Panama, Bugaba 800 to 1500 feet (*Champion*).

One specimen. This species is allied to *A. antica*, Walk.

2. **Anticla carya**, sp. n. (Tab. XXIII. fig. 27.)

Primaries greenish-yellow, with a large square-shaped reddish-brown spot about the middle, extending from the inner margin to the cell, an angularly shaped reddish-brown mark near the apex on the outer margin, and a dark brown spot at the end of the cell, and beyond the latter from the costal margin to the inner margin an indistinct waved brown line, and nearer the outer margin a number of minute white dots crossing from near the apex to the inner margin; secondaries dark orange, palest at the base, crossed about the middle by two indistinct brown lines, the outer margin narrowly bordered with dark brown, a few white scales on the inner margin close to the anal angle; the underside of both wings rich orange-brown, with the bands as above, but darker in colour: head and thorax greenish-yellow, the abdomen fawn-colour, a dark brown line extending from the base of the thorax to the anus, the abdomen reddish-orange beneath; antennæ and legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. Panama, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

A single specimen only of this beautiful and distinct species was captured.

ASTHENIDIA.

Asthenia, Westwood, in Duncan's Nat. Libr. xxxvii. p. 209 (1841); Walker, Cat. xxxii. p. 379 (nomen præoc.) (nec Hübner, 1816).

Asthenidia, Westwood, Trans. Zool. Soc. x. p. 515, note (1879).

The species of *Asthenidia* are only found in the forest-regions of Tropical America; their great resemblance to the Old-World genus *Strophidia* is most remarkable. One species inhabits our country.

1. **Asthenidia transversaria**, sp. n. (Tab. XXIV. fig. 1.)

Primaries and secondaries pure white; the primaries with a brownish-black line at the end of the cell, beyond which are three similarly-coloured lines (the first broad, the second narrow, and the third submarginal) crossing from the costal margin to the inner margin; secondaries crossed from the costal margin close to the base to near the anal angle (but not reaching it) by a narrow brownish-black line, a second line of the same colour crossing beyond this from the costal margin near the apex to the inner margin close to the anal angle, and also with a small indistinct greyish marking on the outer margin below the anal angle, a black marginal line from the apex to just above the small tail, there forming a black spot, bordered on the outer side by a bright orange angular mark, and on the inner side of the tail a large black spot; the underside of both wings pure white, with the darker markings of the upper surface showing through: head, thorax, and abdomen white; antennæ yellowish, rather deeply pectinated; palpi black above, white beneath; legs yellowish-white. Expanse $2\frac{3}{4}$ inches.

Hab. Nicaragua, Chontales (*Belt*); Costa Rica, Cache (*Rogers*); Panama, Bugaba (*Champion*), Volcan de Chiriqui 3000 feet (*Champion, Arcé*).—Colombia (*mus. D.*).

This species appears to be common in our country as far north as Nicaragua, and to extend southwards beyond the limits of our region. *A. transversaria* differs from the other described species in having an orange-coloured spot, instead of a red one, on the secondaries, and in the different position of the black bands; it is allied to *A. geome-*

traria, Felder, specimens of which are before me from Ecuador, but quite distinct. The single specimen from Colombia is considerably larger than the Central-American examples, though agreeing perfectly in other respects.

Fam. DREPANULIDÆ.

PEROPHORA.

Perophora, Harris, Report on Ins. Mass. Injurious to Vegetation, ed. 1, p. 299 (1841); ed. 2, p. 319 (1842); Walker, Cat. iv. p. 974.

I am adopting *Perophora* with considerable doubt, not having seen any specimens of the North-American *P. melsheimerii*, Harris, the type of the genus. The two species from our country agree fairly well with, though very distinct from, the insects placed in this genus by Walker, viz. *P. batesii* and *P. hamata*, from Brazil, both of which are contained in the British Museum.

1. **Perophora hegewischi**, sp. n. (Tab. XXIV. fig. 3, ♀.)

Primaries and secondaries uniform pale pinkish fawn-colour, slightly darker at the base and along the costal margin of the former, both wings crossed near the outer margin by two quite narrow lines (the inner line of a reddish-brown colour, the outer dusky) and with the fringe distinctly darker; the underside of both wings as above, but slightly paler: head, thorax, abdomen, antennæ, and legs pale pinkish fawn-colour. Expanse 2 inches.

Hab. Mexico (*Hegewisch, in mus. Staudinger*).

A specimen in the collection of Dr. Staudinger is the only one I have seen of this species; it is without any exact Mexican locality, but most likely came from the southern part of that country, its nearest allies being found in Tropical South America.

2. **Perophora (?) fabia**, sp. n. (Tab. XXIV. fig. 2, ♂.)

Male. Primaries dark fawn-colour, speckled with black scales along the costal margin, a light-coloured spot close to the base on the inner margin and a round pale-coloured spot at the end of the cell, a narrow dark brown line crossing beyond the end of the cell from the costal margin near the apex to the inner margin close to the anal angle, the space between the line and the outer margin being pale cream-colour thickly speckled with brown and black scales; secondaries dark fawn-colour, with an almost central dark brown line extending from the costal margin near the apex to the inner margin above the anal angle, the base, a spot at the apex, and the anal angle pale cream-colour, thickly irrorated with brown and black scales; the underside as above but paler, and both wings with a narrow submarginal waved black line: head and the front of the thorax pale pink; tegulæ cream-colour, speckled with black; thorax and abdomen fawn-colour, the underside of the former and the legs pink; antennæ pale brown. Expanse $1\frac{1}{2}$ inch.

Hab. Panama (*Ribbe, in mus. Staudinger*).

This beautiful species is very distinct from all others of the genus known to me, and it is possible that upon receipt of further material it may be necessary to place it in a new genus.

DREPANA.

Drepana, Schrank, Fauna Boica, ii. pt. 2, p. 155 (1802); Walker, Cat. v. p. 1159.

This genus now includes a large number of species; it is very widely distributed over the Old and New Worlds; from our country, however, we have as yet only received a single species.

1. **Drepana chaonia,** sp. n. (Tab. XXIV. fig. 7, ♀.)

Female. Primaries brownish fawn-colour, thickly irrorated with dark brown minute dots, an indistinct brown band crossing from the costal margin to the inner margin close to the base, a black spot at the end of the cell, and a brown line crossing from the apex to the middle of the inner margin; secondaries brownish fawn-colour, with the costal half uniformly pale yellow, a short central brown line on the darker half below which are two rows of black dots; the underside of both wings reddish-yellow, with a central brown line: head and the front of the thorax pale yellowish fawn-colour; thorax and the upperside of the abdomen dark brownish fawn-colour, the latter beneath, the legs, and the underside of the thorax orange-yellow; antennæ pale brown. Expanse $1\frac{1}{4}$ inch.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

A single specimen only of this dull-coloured insect was sent; in form it resembles the European *D. sicula*, but differs in marking and colour from that species.

MIMALLO.

Mimallo, Hübner, Verz. bek. Schmett. p. 190; Walker, Cat. vi. p. 1336.

Walker placed in this genus six species, all from Tropical America; one of these is now known to extend as far north as Mexico.

1. **Mimallo amilia.**

Phalæna Attacus amilia, Cram. Pap. Exot. iii. p. 130, t. 265. ff. D, E [1].
Mimallo amilia, Hübn. Verz. bek. Schmett. p. 190; Walk. Cat. vi. p. 1337 [2].
Phalæna vorax, Sepp, Ins. Surinam, i. p. 47, t. 20 [3].

Hab. Mexico, Cordova (*Höge*); Panama, Volcan de Chiriqui (*Ribbe*).—Guiana (*mus. D.*), Surinam [1 2 3]; Amazons; South-east Brazil [3], Rio Janeiro; Trinidad.

This species is found over a very extended range of country. I have a good series of specimens before me; they do not show the least variation. The two specimens from our country are both males; those from South America in my own collection are, however, all females. The larva, pupa, and cocoon are figured by Sepp (*loc. cit.*); the larva lives in a case which it constructs of pieces of wood and grains of sand.

Fam. PSYCHIDÆ.

Three genera of this family are now known to inhabit Central America; a fourth has been named by Guérin-Méneville as *Dipyle*, *D. boucardi* (*cf.* Rev. et Mag. Zool. 1867, p. 455), from the larval case only!—this latter was brought from Mexico by M. Boucard.

TYPHONIA.

Typhonia, Bruand, Essai monogr. sur la tribu des Psychides, p. 17 (1853).

Nine species, all European, were placed in this genus by Bruand; I venture to provisionally include in it one from Guatemala.

1. **Typhonia (?) naxa,** sp. n.

Female. Primaries brownish-black, slightly hyaline, with the nerves rather darker; secondaries uniform hyaline-black: head, thorax, abdomen, antennæ, and legs black. The head very small; the palpi exceedingly minute. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, near the city, San Gerónimo (*Champion*).

This species appears to be very close to *T. ciliarella*, but differs slightly in neuration; the specimens from our country are both females and agree fairly well with Bruand's figure of the female of the above-mentioned species, but without more material it is quite impossible to make it out satisfactorily. *T. naxa* bears a most remarkable resemblance to a Trichopterous insect.

PSYCHE.

Psyche, Schrank, Fauna Boica, ii. pt. 1, p. 156 (1801).

This genus contains a large number of species from all parts of the World; from our country we have received only one as yet. Our specimens unfortunately are too worn to identify or describe.

1. **Psyche ——?**

Hab. MEXICO, Presidio (*Forrer*).

Two specimens; these somewhat closely resemble *Microrgyia amazonum*, Felder, from the Amazons.

ŒCETICUS.

Oiketicus, Lansdown Guilding, Trans. Linn. Soc. xv. p. 373 (1827); Westwood, Proc. Zool. Soc. 1854, p. 219.

Œceticus is at present only retained for one species, *O. kirbii*, the type of the genus; the numerous others described by Lansdown Guilding, Westwood, &c. being now transferred to other genera. *O. kirbii* is apparently very widely distributed.

1. **Œceticus kirbii.**

Oiketicus kirbii, Lansdown Guilding, Trans. Linn. Soc. xv. p. 374, t. 6. ff. 1–10 and t. 7. ff. 1–13[1]; Westw. Proc. Zool. Soc. 1854, p. 221, Annulosa t. 34. ff. 2 *a–d*; Walk. Cat. iv. p. 961[2]; Berg, Stett. ent. Zeit. xxxv. pp. 230–237; Bol. Ac. Cordova, i. pp. 81–95.

Psyche (*Oiketicus*) *giganta,* Zeller, Stett. ent. Zeit. xxxii. pp. 49–52, 80 and 81, t. 2. ff. 1–5 (cocoon, &c.).

Hab. Honduras (*Dyson*[2], *in mus. Brit.*).—Argentine Republic (*Durnford, in mus. D.*).—West Indies[1].

I include this species in our fauna upon the authority of a specimen from Honduras in the British Museum; it is the only one I have seen, excepting those from the Argentine Republic contained in my own collection.

The life-history of this interesting insect has been very fully described by Lansdown Guilding, Westwood, and Zeller; numerous figures of the various stages are given by these authors.

Fam. COSSIDÆ.

COSSUS.

Cossus, Fabricius, Ent. Syst. iii. p. 1 (1793); Walker, Cat. vii. p. 1510.

One of the species I have placed in this genus is probably not a true *Cossus*. So many different forms, however, are included in the genus by Walker and Herrich-Schäffer that without making an examination of most of the species it would be impossible to separate them into different genera; I have not sufficient available material to enable me to arrive at any definite conclusion.

1. **Cossus redtenbachi.**

Zeuzera (*Cossus*) *redtenbachii*, Hammerschmidt, Naturw. Abhandl. von Haidinger Wien, ii. p. 151, t. 14. ff. 1–8 (1848)[1]; Walk. Cat. vii. p. 1530[2].

Hab. Mexico[1 2].

The figure of this species is a very bad one; it represents the insect as of a uniform slaty-grey colour, with several darker lines crossing the primaries from the costal margin to the inner margin. The larva is stated by Hammerschmidt to closely resemble that of *C. ligniperda*, and to be of a dull reddish colour. This insect is quite unknown to me.

2. **Cossus (?) multipunctata,** sp. n. (Tab. XXIV. fig. 9.)

Primaries deep black, thickly banded with small dark blue spots; secondaries uniform smoky-black; the underside of both wings glossy brownish-black, the costal margin of the primaries thickly speckled with blue spots: head, thorax, abdomen, and legs black (antennæ wanting). Expanse $1\frac{1}{4}$ inch.

Hab. Panama, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

This insect has the wings so thickly covered with scales that it is impossible to see the neuration properly. I believe the specimen to be a female, but the abdomen is so much flattened that I am unable to speak positively.

LANGSDORFIA.

Langsdorfia, Hübner, Samml. exot. Schmett. ii. t. 192; Walker, Cat. vii. p. 1527.

The single species placed in this genus by Hübner is very widely distributed; I have to add a second from Western Mexico.

1. **Langsdorfia francki.**

Langsdorfia franckii, Hübn. Samml. exot. Schmett. ii. t. 192. ff. 1 and 2; Walk. Cat. vii. p. 1527 [1].

Hab. NICARAGUA, Chontales (*Belt*); COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Bugaba 800 to 1000 feet (*Champion*), Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA; ECUADOR; BRAZIL [1].

None of the specimens before me are so large as represented in Hübner's figure, though they agree in all other respects.

2. **Langsdorfia forreri,** sp. n. (Tab. XXIV. fig. 5.)

Primaries pale brownish-white, thickly irrorated with darker brown streaks, with a crescent-shaped dark brown mark edged with pale brownish-white close to the apex, an ill-defined dark brown patch at the end of the cell, and a dark reddish-brown rather broad line close to the base crossing from the costal margin to the inner margin; secondaries dirty brownish-white, thickly streaked with minute darker brown lines; the underside as above but more lightly marked with brown: head, thorax, and abdomen brownish, the tufts of hair on the anus pale brownish-white, a pale line on each side of the abdomen; antennæ and palpi pale brown; legs and the underside of the abdomen dirty brownish-white. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Tres Marias Islands (*Forrer*).

Two examples. This curious and distinct species closely resembles a *Zeuzera*, but has the neuration and antennæ of *Langsdorfia*.

ZEUZERA.

Zeuzera, Latreille, Hist. nat. des Crust. et Ins. xiv. p. 175 (1805); Walker, Cat. vii. p. 1528.

Walker placed twenty-nine species in this genus, and since then various others have been described. *Zeuzera* is very widely distributed in the Old and New Worlds; some of the Indian and African species are very beautifully coloured.

1. **Zeuzera cognata.** (Tab. XXIV. fig. 6, ♀.)

Zeuzera cognata, Walk. Cat. vii. p. 1532 [1].

Hab. MEXICO, Presidio (*Forrer*), Jalapa (*Höge*); HONDURAS (*Dyson* [1], *mus. Brit.*)

This species is allied to *Z. pyracmon* and *Z. fracta*, Walk., the former of which is from Surinam and the latter from an unknown locality. The male of this insect is considerably smaller than the female; we figure one of the latter sex from Jalapa.

Fam. HEPIALIDÆ.

HEPIALUS.

Hepialus, Fabricius, Gen. Ins. p. 162 (1776).
Hepiolus, Illiger, Mag. i. p. 138 (1801).

This well-known genus is found all over the world; the tropical species, however, are very little known as yet. From our country we have only received a single species.

1. **Hepialus pharus,** sp. n. (Tab. XXIV. fig. 12, ♂.)

Male. Primaries dark brown, mottled with lighter brown, with a large dark brown patch below the end of the cell, beyond which are two dark brown bands crossing from the costal margin to the anal angle, several dark brown dots on the costal margin, and a silver streak near the base, another at the end of the cell, and a third close to the apex; secondaries dark brownish-black, semihyaline close to the base, the base thickly covered with reddish-brown hairs; the underside of both wings uniform dark brown, with a few light-coloured spots along the costal margin of the primaries: head, thorax, and abdomen dark brown, the latter thickly covered with reddish-brown hairs at the base; antennæ very minute, of a dark brown colour; legs brownish-black, the hind tibiæ clothed with a brush of long yellowish hairs. Expanse $2\frac{1}{4}$ inches.

Hab. GUATEMALA, Las Mercedes 3000 feet, Dueñas (*Champion*); COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*).

The specimen from Las Mercedes is the one from which our figure is taken; it is rather darker and more distinctly marked than the others; the individual from Costa Rica is considerably paler in colour, the one from Dueñas being intermediate between the two.

DALACA.

Dalaca, Walker, Cat. vii. p. 1559 (1856).

Walker included five species in this genus—one from Chili, two from Africa, and two, doubtfully, from Brazil. I take the first-named, *D. nigricornis,* Walk., as the type of the genus; the African species appear to be very doubtfully congeneric. Numerous other species of *Dalaca* are now known, and I here describe one from Guatemala.

1. **Dalaca assa,** sp. n. (Tab. XXIV. fig. 10.)

Primaries pale reddish-brown, crossed by very many bands of small spots of a slightly darker colour; secondaries uniform pale brown, shaded with reddish-brown at the apex; the underside of both wings brown: head, thorax, and abdomen dark brown, with some reddish-brown hairs at the base of the thorax; antennæ and legs dark brown. Expanse 2 inches.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet (*Champion*).

This species is closely allied to an undescribed one from Ecuador in my own collection.

PHASSUS.

Phassus, Walker, Cat. vii. p. 1566 (1856).

Six species were placed in this genus by Walker—one from Mexico, three from Tropical South America, one from Africa, and one from Asia. *Phassus* now includes several additional species, most of which are from the New World. I have to record five species from our country, three of which are described as new.

Most of the species of this genus appear to be exceedingly rare, though one is distributed over a very extended range of country.

1. Phassus argentiferus.

Phassus argentiferus, Walk. Cat. vii. p. 1566[1].

Hab. Mexico (*Hartweg*[1]); Costa Rica (*Van Patten*), Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The examples before me are identical with Walker's type in the National collection. *P. argentiferus* seems to be peculiar to our country; I have no evidence of its occurrence south of the Isthmus of Panama. This species is allied to *P. hübneri*.

2. Phassus triangularis.

Phassus triangularis, H. Edwards, Ent. Amer. i. p. 129[1].

Hab. Mexico, Jalapa (*Schaus*[1]).

This insect, judging from Mr. Edwards' description, is very closely allied to *P. argentiferus*.

3. Phassus phalerus, sp. n. (Tab. XXIV. fig. 8, ♂.)

Male. Primaries pale brown, shaded with darker brown, crossed beyond the middle by a wide indistinct glossy pale brownish band, which begins close to the costal margin and crosses to the inner margin and then runs up to the base (forming an ill-defined **V**-shaped mark, darkest near the inner margin), with two metallic spots about the middle (the first close to the base, the second beyond and close to the end of the cell), and the costal and outer margins speckled with dark brown; secondaries brownish-black, slightly hyaline near the base, the apex and outer margin brownish, the base thickly covered with long brownish-black hairs; the underside of both wings brownish-black, their costal margins, and the outer margins of the secondaries also, pale yellowish-brown, the primaries thickly clothed with long blackish hairs from the base to beyond the middle: head and thorax dark brown; abdomen above black, dark brown at the base, each segment banded with very pale brown hairs, beneath pale brown; antennæ very minute, of a dark brown colour; legs dark brown, the hind tibiæ with a large tuft of bright orange-coloured hair. Expanse 4 inches.

Hab. Mexico, Jalapa (*Höge*).

One specimen. It is just possible that *P. phalerus* may be identical with the insect from the same locality described by Mr. Edwards as *P. triangularis*, but as it does not fit his description at all well I have ventured to describe it.

4. Phassus championi, sp. n. (Tab. XXIV. fig. 11.)

Primaries pale fawn-colour, thickly covered with darker streaks and much mottled with paler colour, and with several dark brown spots along the costal margin and on the inner margin near the base; secondaries pale blackish-brown, the apex pale and spotted with darker brown, the points of the veins on the outer margin pale fawn-colour; the underside of both wings uniform brownish fawn-colour, the apices paler and spotted with darker brown, all the veins dark brown: head and thorax pale brownish fawn-colour; abdomen above black, pale brownish fawn-colour at the base, beneath and the sides also brownish, and covered with silky hairs; (antennæ wanting); legs dark brown. Expanse 6 inches.

Hab. Guatemala, Purula 4000 feet (*Champion*).

One specimen only was obtained of this fine species; it is quite unlike any other known to me, but may be allied to the South-American *P. giganteus*, Herr.-Schäff. *P. championi* is by far the largest species of the genus as yet found in our country.

5. **Phassus costaricensis,** sp. n. (Tab. XXIV. fig. 4.)

Primaries and secondaries uniform reddish fawn-colour; the primaries thickly marked with darker lines, and with a narrow dark reddish-brown line crossing beyond the end of the cell from the costal margin near the apex to the inner margin (which it does not quite reach), and an indistinct blackish spot at the end of the cell; the underside of both wings reddish fawn-colour: head and the front of the thorax dark reddish fawn-colour; thorax and abdomen black, thickly covered with light brown hairs; (antennæ and legs wanting). Expanse $3\frac{1}{4}$ inches.

Hab. Costa Rica (*Van Patten*).

The only specimen sent of this species is in very poor condition; in colour it is very distinct from any described species.

Fam. NOTODONTIDÆ.

CECRITA.

Cecrita, Walker, Cat. v. p. 992.

Walker founded this genus upon a single species from Nova Scotia. I refer to it two species from our country; both these were placed in other genera by Walker.

1. **Cecrita viridescens.**

Stauropus viridescens, Walk. Cat. xxxii. p. 416 [1].

Hab. Mexico, Jalapa (*Höge*); Guatemala, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

The two Central-American specimens before me agree well with the type in the National collection; the locality from which the latter was obtained is unknown [1]. I do not agree with Messrs. Grote and Robinson in regarding this insect as synonymous with *C.* (*Heterocampa*) *biundata.*

2. **Cecrita biundata.**

Heterocampa biundata, Walk. Cat. v. p. 1025 [1].

Heterocampa obliqua, Packard, Proc. Ent. Soc. Phil. iii. p. 368 [2]; Grote & Robinson, Tr. Am. Ent. Soc. i. p. 178, t. 4. ff. 26 ♂, 27 ♀ [3].

Hab. North America, Trenton Falls [1], New York [2] to Pennsylvania [3].—Guatemala, San Gerónimo (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The Central-American specimens before me agree well with Walker's type in the National collection. The female example from the State of Panama is more distinctly marked with dark brownish spots than any I have seen from North America, but specimens from Colombia in my own collection are exactly like those from New York.

ŒDEMASIA.

Œdemasia, Packard, Proc. Ent. Soc. Phil. iii. p. 359 (1864).

This genus was founded by Packard upon *Phalæna concinna,* Abbot & Smith, and

two other species described by him, all from the United States. Mr. Grote in his list of North-American Moths includes five species in *Œdemasia*; from our country I have to record one.

1. **Œdemasia seriata,** sp. n. (Tab. XXV. fig. 1, ♂.)

Male. Primaries pale brown, darker along the costal margin and streaked with brownish-black lines at the apex, with four black spots close to the anal angle, and the inner margin as far as the cell thickly speckled with black dots; secondaries uniform pale silky brown, slightly paler at the base and along the costal margin, the fringe yellowish-white; the underside of the primaries dark brown, with the veins pale greyish from the outer margin to about the middle, that of the secondaries pale greyish-brown, considerably paler at the base: head and the front of the thorax pale brown, the thorax itself darker brown; abdomen and legs pale brown; antennæ long and slender, of a pale brown colour. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Jalapa (*Höge*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

The female specimen from Chiriqui in Dr. Staudinger's collection is rather darker in colour along the inner margin of the primaries and not quite so distinctly marked with dark spots near the apex as our Mexican example; the secondaries are also darker brown.

EDEMA.

Edema, Walker, Cat. v. p. 1028.

Five species were placed in this genus by Walker, all from North or Central America.

1. **Edema producta.**

Edema producta, Walk. Cat. v. p. 1031 [1].

Hab. NORTH AMERICA, St. John's Bluff in E. Florida [1].—HONDURAS (*Dyson* [1]).—ANTILLES, Jamaica [1].

2. **Edema fuscescens.**

Edema fuscescens, Walk. Cat. v. p. 1031 [1].

Hab. HONDURAS (*Miller* [1]).

3. **Edema mandela,** sp. n. (Tab. XXV. fig. 3.)

Primaries dark brown, thickly speckled with minute black dots, and with a small spot at the end of the cell, a light brown-coloured patch beyond the cell, and a whitish streak at the apex (but considerably smaller than in any other described species of *Edema*); secondaries dark brown, palest at the base, the fringe whitish; the underside of both wings dark brown, shading to very pale fawn-colour at the base: head fawn-coloured; thorax fawn-coloured in front, dark greyish-brown behind, beneath and the sides pale greyish-brown; tegulæ dark greyish-brown; abdomen above dark greyish-brown, beneath and the sides pale greyish-brown; legs dark brown; antennæ and palpi dark reddish-brown. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Presidio (*Forrer*).

One specimen. *E. mandela* is closely allied to several of the North-American species; it differs, however, in having the head and the front of the thorax bright fawn-colour, and also in the small size of the whitish mark at the apex of the primaries.

This species appears to come nearest to *E. packardi*, Morrison, a bad specimen of which is contained in the Grote collection now in the National Museum.

LEPTOSPHETTA.

Leptosphetta, Butler, Trans. Ent. Soc. Lond. 1878, p. 67.

Leptosphetta is stated by its author to be allied to the eastern genus *Sphetta* and to have the antennæ minutely pectinated as in *Calledema*. A single species only, *L. rabdina*, from the Amazons, was included in the genus by its describer; this insect appears to be widely distributed and to extend northwards to Costa Rica.

1. **Leptosphetta rabdina.**

Leptosphetta rabdina, Butl. Trans. Ent. Soc. Lond. 1878, p. 67[1].

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).—Colombia, Bogota; Ecuador; Amazons, Rio Jutahi (*Trail*[1]).

A single example of this insect was captured in Costa Rica by Mr. Rogers. I have a good series of specimens of both sexes obtained by the late Mr. Buckley in Ecuador; these are considerably brighter in colour than the individual from Costa Rica.

LOCHMÆUS.

Lochmæus, E. Doubleday, in Newman's Entomologist, 1841, p. 57.
Heterocampa, Walker, Cat. v. p. 1022 (partim).

This New-World genus is represented in our country by two species, one of which is also common in North America.

1. **Lochmæus manteo.**

Lochmæus manteo, E. Doubleday, in Newman's Entom. 1841, p. 58[1].
Heterocampa manteo, Walk. Cat. v. p. 1024[2].

Hab. North America[1 2].—Mexico, Valladolid in Yucatan (*Gaumer*); Guatemala, San Gerónimo (*Champion*).

2. **Lochmæus albosigma**, sp. n.

Primaries very dark brown, speckled with black, with a small white spot at the apex and a larger whitish spot about the middle of the inner margin; secondaries uniform dark brown, slightly paler near the base, the fringe pale brown; the underside of both wings uniform pale brown: head and the front of the thorax pale yellowish fawn-colour, the back of the thorax and the abdomen dark brown; antennæ, palpi, and legs brown. Expanse 1½ inch.

Hab. Guatemala, Volcan de Atitlan 2600 to 3500 feet (*Champion*).

HETEROCAMPA.

Heterocampa, E. Doubleday, in Newman's Entomologist, 1841, p. 55; Walker, Cat. v. p. 1022; Grote & Robinson, Tr. Am. Ent. Soc. i. p. 178.

This genus is of considerable extent, about nineteen species being found in North

America alone; others have also been described from various parts of the Old and New Worlds; in our country *Heterocampa* is represented by nine species.

1. **Heterocampa edwardsi.**

Heterocampa muscosa, H. Edwards, Papilio, iv. p. 79[1] (nec Möschler).

Hab. Mexico, State of Vera Cruz (*Schaus*[1]).

"Allied to *H. guttivitta*, but of a much greener tint, and also distinguished by the strongly marked white patches." The specific name having been previously used by Möschler for another species of the same genus, a new name is required.

2. **Heterocampa dardania**, sp. n. (Tab. XXV. fig. 4, ♀.)

Male. Primaries pale greyish-brown, the nerves darker brown, with a narrow zigzag line crossing close to the base from the costal margin to the inner margin, a dark line at the end of the cell extending to the costal margin, and a submarginal row of elongate blackish spots extending from the apex to the inner margin near the anal angle, the fringe alternately dark brown and pale greyish; secondaries white, broadly bordered along the costal margin with greyish-brown, and with a narrow marginal brown line from the apex to the anal angle; the underside of both wings whitish, dusky along the costal margins of the primaries: head and thorax above greyish-brown, beneath brown; abdomen above greyish-brown, beneath greyish-white, the anus bright fawn-colour; legs and antennæ brown, the palpi almost black. The female similar to the male, but larger, and with the markings near the base of the primaries much more distinct. Expanse, ♂, $1\frac{7}{10}$ inch; ♀, $1\frac{9}{10}$ inch.

Hab. Mexico, Jalapa (*Höge*).

Two examples, one of each sex.

3. **Heterocampa sylla**, sp. n. (Tab. XXV. fig. 5, ♂.)

Primaries reddish-brown, shaded with darker brown, and thickly irrorated with minute black dots, with a large greyish spot on the inner margin close to the anal angle and a narrow submarginal waved yellowish line extending from the apex to the hind margin; secondaries pale blackish-brown, palest at the base, a white spot on the costal margin close to the apex; the underside of both wings whitish, shaded with brown: head, thorax, and abdomen yellowish-brown; antennæ, palpi, and legs brown. Expanse $1\frac{1}{4}$ inch.

Hab. Panama, Caldera in Chiriqui 1200 feet (*Champion*).

One specimen. A very pretty and distinct species.

4. **Heterocampa manethusa**, sp. n. (Tab. XXV. fig. 6, ♂.)

Primaries from the base to about the middle reddish-brown and speckled with greenish-grey scales, from the middle to the apex and almost to the outer margin white, the outer margin broadly greenish from the anal angle almost to the apex (but not reaching it) and with four very minute white dots on the extreme edge; secondaries greyish-white, irrorated with dusky scales near the apex; the underside of both wings white, the primaries broadly shaded with brown along the costal margin: head and thorax greenish-yellow, speckled with darker scales; abdomen above dark brown, with three small tufts of yellowish scales down the middle, beneath and the anus greyish; antennæ and palpi brown; legs pale yellowish-brown. Expanse 2 inches.

Hab. Costa Rica, Irazu 6000 to 7000 feet (*Rogers*).

One specimen. This fine species has no near known ally.

5. **Heterocampa tessella.**

Lochmæus tessella, Packard, Proc. Ent. Soc. Phil. iii. p. 370 (♀)[1]; Walk. Cat. xxxv. p. 1930[2].
Heterocampa tessella, Grote & Robinson, Trans. Am. Ent. Soc. i. p. 182, t. 4. f. 29, ♂[3].

Hab. North America, New York to Pennsylvania[3], Middle States[1 2].—Mexico, Jalapa (*Höge*).

One specimen. This is identical with an example from the United States in Mr. Grote's collection, now in the British Museum.

6. **Heterocampa lupia,** sp. n.

Female. Primaries pale greyish fawn-colour at the base and apex, with a whitish zigzag line bordered with black on the inner side and some dusky markings crossing from the costal margin to the inner margin, and several indistinct blackish markings along the outer margin; secondaries greyish-white, slightly darker from the apex to the anal angle; the underside of both wings white, the primaries thickly irrorated with brown scales: head, thorax, and abdomen greyish-white; antennæ and legs pale brown. Expanse $1\frac{3}{4}$ inch.

Hab. Mexico, Presidio (*Forrer*).

One example. This species is allied to *H. tessella.*

7. **Heterocampa alector,** sp. n. (Tab. XXV. fig. 7.)

Primaries brownish-grey, streaked and mottled with black, with a black streak on the inner margin near the base, a black **W**-shaped mark about the middle, a larger pale brown mark close to the apex, and several black spots along the outer margin; secondaries pale yellowish-brown, darkest across the middle, and with several greyish spots at the anal angle; the underside of both wings very pale fawn-colour, the primaries clouded with dark brown about the middle: head and thorax greyish-brown; abdomen pale fawn-colour; palpi and legs dark brown; (antennæ wanting). Expanse 2 inches.

Hab. Mexico, Presidio (*Forrer*).

One specimen. This insect is allied to *H. pulverea,* but is considerably smaller and with the wings not nearly so distinctly marked. The example before me is not in good condition, therefore it is very difficult to describe the exact markings.

8. **Heterocampa pulverea.**

Heterocampa pulverea, Grote & Robinson, Trans. Am. Ent. Soc. i. p. 185, t. 4. f. 32, ♀[1].

Hab. North America, Pennsylvania[1].—Mexico, Jalapa (*Höge*).

Our single specimen is a female; it very closely resembles a male in Mr. Grote's collection in the National Museum.

9. **Heterocampa punctata,** sp. n.

Male. Primaries uniform pale brown, thickly spotted with minute dots of a darker colour, and with a marginal row of small black dots; secondaries uniform pale brown, palest at the base; the underside of both wings uniform pale brown: head, thorax, abdomen, and legs pale brown; antennæ and palpi darker brown. Expanse $1\frac{6}{10}$ inch.

Hab. Guatemala, Volcan de Atitlan 2500 to 3500 feet (*Champion*); Panama, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

Two males of this species were obtained by Mr. Champion in Guatemala; the

specimen from the Volcan de Chiriqui is much paler in colour, but in all other respects identical with the type.

SYMMERISTA.

Symmerista, Hübner, Verz. bek. Schmett. p. 248 (1816); Butler, Ann. & Mag. Nat. Hist. 5th ser. ii. p. 179 (1878).

In our country this genus is represented by four species, all of which appear to be very rare. *Symmerista* is not retained by Walker; the two described species I refer to it were placed by him in the Noctuidæ, but they seem to me to agree far better with the Notodontidæ.

1. Symmerista politia.

Phalæna Noctua politia, Cram. Pap. Exot. iv. p. 41, t. 309. f. F[1].
Symmerista politia, Hübn. Verz. bek. Schmett. p. 248.
Polia (?) *politia,* Walk. Cat. xi. p. 520[2].

Hab. GUATEMALA, Purula (*Champion*); PANAMA, Volcan de Chiriqui (*Arcé, mus. D.*). —GUIANA, Surinam [1 2].

The Guatemalan example before me agrees well with Cramer's figure of this species; the specimen from the State of Panama is considerably smaller and paler in colour, but in other respects identical.

2. Symmerista pinna, sp. n. (Tab. XXV. fig. 9.)

Primaries pale fawn-colour, broadly darker brown along the costal margin, a wide streak from the end of the cell to the outer margin, with three indistinct waved lines crossing from the costal margin to the inner margin, and a marginal row of lunular-shaped marks, yellowish-brown; secondaries uniform blackish-brown, with the fringe whitish; underside of the primaries dark brown, pale cream-colour at the apex and along the outer margin to the anal angle, and then along the inner margin up to the base, a marginal row of black dots from the apex to the anal angle: head and thorax pale greyish fawn-colour; abdomen dusky above, with a central black line from the base to the anus; the underside of the thorax and abdomen pale brownish fawn-colour; legs and palpi brown; (antennæ wanting). Expanse 2 inches.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

One specimen only.

3. Symmerista distinguenda.

Acronycta distinguenda, Walk. Cat. ix. p. 63[1].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—ANTILLES, Santo Domingo [1].

The specimen in Dr. Staudinger's collection is identical with Walker's type. It is the only one I have seen from our country.

4. **Symmerista lineata,** sp. n. (Tab. XXV. fig. 11.)

Primaries greyish-white, crossed by narrow waved black lines, with a black streak at the end of the cell, and external to this two pale brown waved lines crossing from the costal margin to the inner margin, a wide black line beyond bordered on the outer edge with dark brown markings, and a submarginal row of lunular black markings extending from the apex to the anal angle; secondaries dusky white, broadly bordered with brownish-black from the apex to the anal angle, the fringe white; the underside of the primaries glossy brownish-black, with the inner margin and the fringe white, that of the secondaries silky white, with a dark-coloured border as on the upperside: head dark brown, white in front; thorax above dark brown, beneath white; tegulæ greyish-white; abdomen above dusky, beneath white, the anus pale grey; legs white; antennæ brown; palpi pale grey. Expanse $2\frac{1}{10}$ inches.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

This fine insect is allied to *S. distinguenda*, from which it is at once distinguished by the black lines crossing the primaries; an allied undescribed species is found in South-east Brazil.

ROSEMA.

Rosema, Walker, Cat. v. p. 1168; Butler, Trans. Ent. Soc. Lond. 1878, p. 68.

Walker included five species, all from Tropical South America, in this genus; three of these extend northwards into our region, whence I also have to record one other. The author of the genus erroneously referred it to the Drepanulidæ.

1. **Rosema dorsalis.**

Rosema dorsalis, Walk. Cat. v. p. 1169[1].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR; BRAZIL[1].

The only authority I have for including this southern species in our fauna is a female specimen in the collection of Dr. Staudinger; this is identical with a long series of examples before me from Ecuador.

2. **Rosema deolis.**

Phalæna Geometra deolis, Cram. Pap. Exot. i. p. 59, t. 36. f. F, & iv. p. 136, t. 360. f. B[1].
Rosema deolis, Walk. Cat. v. p. 1170[2], and xxxii. p. 511[3].

Hab. GUATEMALA, Las Mercedes 3000 feet, Pantaleon 1700 feet, San Gerónimo (*Champion*); PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui, David (*Champion*). —ECUADOR; GUIANA, Cayenne[2], Surinam[1 3]; AMAZONS, Ega[3]; SOUTH-EAST BRAZIL, Rio Janeiro[3].—ANTILLES[3].

This widely distributed species varies both in colour and in the size of the brown spot at the end of the cell.

3. **Rosema demorsa.**

Rosema demorsa, Feld. Reise d. Nov. Lep. t. 96. f. 11, Erkl. der Taf. 75 bis 107, p. 8 (♀)[1].
? *Phalæna Bombyx epigena,* Sepp, Surin. Vlind. p. 227, t. 102 (1848); Butler, Trans. Ent. Soc. Lond. 1878, p. 68[2].

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota [1]; AMAZONS, Rio Sapo [2].

A male of this species was sent from the Volcan de Chiriqui; it only differs from Felder's figure in being slightly darker in colour, and in having the antennæ rather deeply pectinated.

4. **Rosema æthra,** sp. n. (Tab. XXV. fig. 12, ♂.)

Primaries pale pea-green, the costal margin from the base to the apex edged with brownish-yellow, a small black spot at the end of the cell and a pale brownish-yellow spot about the middle of the inner margin, the latter between the spot and the base of a much darker green colour; secondaries silky-white, with the fringe pale yellowish-brown; the underside of the primaries greenish-white, with the costal margin yellow, that of the secondaries as above: head and tegulæ pale pea-green; thorax above pale fawn-colour, beneath pinkish-red; abdomen above and beneath yellowish-white, the base above pale fawn-colour; antennæ and legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Cahabon 1000 feet (*Champion*).

One specimen. *R. æthra* differs from its allies in having white hind wings; it is most nearly allied to an undescribed species from Ecuador in my own collection.

CERURA.

Cerura, Schrank, Fauna Boica, ii. pt. 2, p. 155 (1802); Stephens, Illustr. Brit. Ent. Haust. ii. p. 15 (1829); Walker, Cat. v. p. 982, & xxxii. p. 407.

This well-known genus is widely distributed in the Old and New Worlds; one species inhabits our region.

1. **Cerura cinerea?**

Cerura cinerea, Walk. Cat. xxxii. p. 407 [1]; Grote, List of North-American Moths, p. 20 [2].

Hab. NORTH AMERICA [1 2].—MEXICO, Jalapa (*Höge*); GUATEMALA, San Gerónimo (*Champion*).

The specimens I somewhat doubtfully refer to this species are very much stained; so far as I am able to see they appear to be almost identical in the markings of the primaries with Walker's type.

CONTREBIA.

Contrebia, Walker, Cat. ix. p. 134.

Walker placed this genus in the Noctuidæ; but in my opinion, and in Mr. Butler's also, it should be included in the Notodontidæ. *Contrebia* contains a single species from Honduras.

1. Contrebia extrema.

Contrebia extrema, Walk. Cat. ix. p. 134[1].

Hab. HONDURAS (*Dyson*[1]).

This species is only known to me by the type in the National collection.

ETOBESA.

Etobesa, Walker, Cat. xxxii. p. 471.

Walker included in this genus a single species, *E. ligneata*, from the Amazons; *Edema xylinoides*, Walk., from Colombia, would appear also to belong to it. The latter extends northwards into our region.

1. Etobesa xylinoides.

Edema xylinoides, Walk. Cat. xxxv. p. 1931[1].

Hab. MEXICO, Cordova (*Rümeli*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).—COLOMBIA, Santa Marta[1].

Two examples: the one from Mexico agrees fairly with Walker's type; the other from the State of Panama is altogether darker in colour, but has the markings almost similar, the greatest difference being in the colour of the abdomen—in the former quite pale fawn-colour, in the latter dark brown. Our material is not sufficient for me to venture to describe the Panama insect, but it is quite likely that upon receipt of more specimens it may prove to be distinct.

PHYA.

Janassa, Walker, Cat. v. p. 1101 (nomen præoc.).

Walker founded this genus upon a single species, *J. lignicolor*, from an unknown locality; this insect is now known to come from North America, and quite lately Mr. H. Edwards has described a second species from our country. The name *Janassa* being preoccupied in Pisces, it is necessary to change it.

1. Phya laciniosa.

Janassa laciniosa, H. Edwards, Entom. Amer. i. p. 129[1].

Hab. MEXICO, Jalapa (*Schaus*[1]), Mazatlan (*H. Edwards*[1]).

Unknown to me.

TIFAMA.

Tifama, Walker, Cat. v. p. 1077.

Two species were placed in this genus by Walker, *T. simois* (Cram.), and, doubtfully, *T. ziliante* (Cram.), both from Surinam; *Tifama* also includes several

other Tropical-American species, two of which are now known to inhabit our region.

1. Tifama chira.

Phalæna Noctua chira, Cram. Pap. Exot. iv. p. 39, t. 308. f. E [1] (nec Drury).

Hab. British Honduras, Belize (*Blancaneaux*).—Guiana, Surinam [1].

The specimen before me from British Honduras agrees well with Cramer's figure, but not with that of Drury; the latter, I believe, represents a species of Noctuidæ.

2. Tifama (?) truncata.

Notodonta truncata, Herr.-Schäff. Samml. aussereur. Schmett. t. 87. f. 494 [1].

Notodonta (n. g.?) *truncata*, Walk. Cat. xxxii. p. 410 [2].

Hab. Mexico, Presidio (*Forrer*).—South America [1 2].

One example. This insect in neuration is extremely close to *T. chira*; it, however, has much longer primaries, and may prove to belong to a distinct genus.

HAPIGIA.

Hapigia, Guénée, Spécies général des Lép. vi. p. 375 (1852); Walker, Cat. xi. p. 960.

Corymbia, Walker, Cat. xxxiii. p. 765 (pars).

Lobogona, Felder, Reise d. Nov. Lep. t. 98. f. 4, Erkl. der Taf. 75 bis 107, p. 6 (1874).

Hapigia is probably confined to Tropical America; the Asiatic species included by Walker in *Corymbia*, being most probably generically distinct. Four species inhabit our region. The genus is placed in the Noctuidæ by Guénée and Walker.

1. Hapigia nodicornis.

Hapigia nodicornis, Guén. Sp. Gén. Lep. vi. p. 376, t. 12. f. 7 [1].

Hapygia nodicornis, Walk. Cat. xii. p. 960 [2].

Hab. Panama, Volcan de Chiriqui (*Ribbe*).—Guiana, Cayenne [1 2].

Herr Ribbe obtained several specimens of this species in the State of Panama; Mr. Champion did not meet with it. Chiriqui specimens agree perfectly with Guénée's figure.

2. Hapigia smerinthoides.

Corymbia smerinthoides, Walk. Cat. xxxiii. p. 765 (♀) [1].

Hab. Nicaragua, Chontales (*Belt*); Panama, Volcan de Chiriqui (*Ribbe*).—Guiana, Demerara [1]; Amazons, Villa Nova [1].

Of this species I have four female specimens from our country before me, all agreeing well with Walker's types. The only male example known to me, from Chiriqui, is in the collection of Dr. Staudinger; it is rather smaller, and has the costal margin slightly paler than in the female.

3. **Hapigia** (?) ——?

Hab. PANAMA, Colon (*Boucard, in mus. D.*).

A female specimen, too worn to describe.

4. **Hapigia ribbei,** sp. n. (Tab. XXV. fig. 8.)

Primaries uniform rich reddish-brown, crossed beyond the middle from the costal margin to the inner margin by a narrow dark brown line with minute yellowish dots along its inner edge, a submarginal row of very minute black dots extending from the apex to the anal angle, a large metallic golden spot at the end of the cell and a small one close to the apex on the costal margin; secondaries uniform pale drab-colour; the underside of both wings pale brown, shaded with darker brown at the base and also along the costal margin of the primaries: head and thorax reddish-brown, the latter much paler beneath; abdomen above pale greyish-brown, beneath pale reddish-brown, the anus yellow; palpi and legs reddish-brown; antennæ dark brown. Expanse $3\frac{3}{10}$ inches.

Hab. PANAMA, Volcan de Chiriqui (♀, *Ribbe*; ♂, *Arcé, in mus. D.*).

The sexes of this fine species closely resemble one another. *H. ribbei* is allied to *H. simplex* (Walk.), from Cayenne, from which it is at once distinguished by the metallic spots on the primaries.

CANODIA.

Canodia, Guénée, Spécies général des Lép. vi. p. 377 (1852); Walker, Cat. xii. p. 968, & xxxv. p. 1967.

Guénée placed this genus in the Noctuidæ at the head of his family "Hemiceridæ"; he included in it a single species, *C. carmelitoides*, from Brazil, Walker subsequently (*op. cit.* xxxv. p. 1967) adding to it *C. difformis*, Herr.-Schäff., from Surinam; the latter is now known to extend northwards to Panama. *Canodia* is no doubt allied to *Hapigia*, and I accordingly place it in the Notodontidæ.

1. **Canodia difformis.**

Canodia difformis, Herr.-Schäff. Samml. aussereur. Schmett. t. 27. f. 132[1]; Walk. Cat. xxxv. p. 1967[2].

Hab. PANAMA (*Ribbe, in mus. Staudinger*).—GUIANA, Surinam [1 2].

The specimen of this species from Panama in Dr. Staudinger's collection agrees with Herrich-Schäffer's figure; it is the only one I have seen.

CHLIARA.

Chliara, Walker, Cat. xii. p. 938.

Autographa, Hübner, Verz. bek. Schmett. p. 251 (partim).

Walker founded this genus upon two insects from Tropical South America: *C. imperialis*, from Brazil, and *C. cresus*, Cramer, from Berbice; I see no reason for not regarding these as one and the same species. *C. cresus* is now known to extend northwards to Chiriqui.

1. **Chliara cresus.**

Phalæna cresus, Cram. Pap. Exot. ii. p. 72, t. 142. f. C [1].
Autographa cræsa, Hübn. Samml. exot. Schmett. ii. ff. 1–4; Verz. bek. Schmett. p. 251.
Chliara imperialis, Walk. Cat. xii. p. 939 [2].
Chliara cresus, Walk. l. c. p. 939 [3].
Chliara moneta, Feld. Reise d. Nov. Lep. t. 96. f. 7, Erkl. der Taf. 75 bis 107, p. 3 [4].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe*).—GUIANA, Berbice [1 3], Demerara; AMAZONS [4]; BRAZIL [2].

I fail to find any characters to separate these as distinct species; the specimens before me vary slightly, but in no case sufficiently to enable me to regard them as anything but very slight varieties of one and the same species. The example from the Volcan de Chiriqui is most like Felder's figure, being at the same time identical with others from Demerara; others again more nearly resemble Cramer's figure: all the specimens vary very much in the colour of the secondaries.

DATANA.

Datana, Walker, Cat. v. p. 1060; Grote & Robinson, Proc. Ent. Soc. Phil. vi. p. 8 (1866).

Walker included in this genus four species from North America; three others have since been described by Grote and Robinson, one of which is now known to extend southwards to Mexico.

1. **Datana integerrima.**

Datana integerrima, Grote & Robinson, Proc. Ent. Soc. Phil. vi. p. 12, t. 2. f. 4, ♀ [1].

Hab. NORTH AMERICA, United States [1].—MEXICO, Jalapa (*Höge*).

The two specimens of this species from Mexico agree with others from the United States in Mr. Grote's collection.

LIRIMIRIS.

Lirimiris, Walker, Cat. xxxii. p. 468.

Walker founded this genus upon a single species, *L. lignitecta*, from an unknown locality, and a specimen under this name is contained in the National collection. An insect from the State of Panama appears to be congeneric with this, and I include it in *Lirimiris* accordingly.

1. **Lirimiris albo-lineata,** sp. n. (Tab. XXV. fig. 10, ♂.)

Primaries pale greyish-brown, with two **V**-shaped reddish-brown marks on the costal margin (the first near the base, the second beyond the middle) and two small spots of the same colour nearer the apex, two waved white lines (the one nearest the base very indistinct) crossing from the **V**-shaped marks to the inner margin, several dark brown dots close to the anal angle, and a white streak at the end of the cell; secondaries pale silky-brown, darkest at the apex and round the outer margin; the underside of the primaries dark brown, slightly greyish at the base, and with the fringe brown and white, that of the secondaries

white, with long yellowish hairs from the base to about the middle, the costal margin brownish: head and thorax dark brown; abdomen above dark brown, beneath greyish-brown; tegulæ large, almost white; palpi above dark brown, beneath whitish; antennæ and legs brown. Expanse 2 inches.

Hab. PANAMA, Bugaba 800 to 1000 feet (*Champion*).

One specimen. This species is allied to, though quite distinct from, *L. lignitecta*, Walker.

CRINODES.

Crinodes, Herrich-Schäffer, Samml. aussereur. Schmett. p. 11; Butler, Ann. & Mag. Nat. Hist. 5th ser. ii. p. 178.

Crino, Hübner, Verz. bek. Schmett. p. 216; Walker, Cat. xiv. p. 1346; Dietrich, Stett. ent. Zeit. 1862, p. 477; Ritsema, Ent. Monthly Mag. ix. pp. 94, 95, and 164–166. (Nomen præoc.)

Tarsolepis, Butler, Ann. & Mag. Nat. Hist. 4th ser. x. p. 125, and xi. pp. 78 & 79 (1872); Ent. Monthly Mag. ix. pp. 111 & 112 (apud Ritsema).

This genus is represented in our country by three species, one of which is here described. *Crinodes* inhabits the tropical regions of both the Old and the New World. The genus was erroneously placed in the Noctuidæ by Walker.

1. **Crinodes besckei.**

Crino besckei, Hübn. Samml. exot. Schmett. ii. t. 194. ff. 1–4; Walk. Cat. xiv. p. 1346[1].

Crinodes besckei, Herr.-Schäff. Samml. aussereur. Schmett. p. 11.

Hab. MEXICO[1], Cordova (*Höge*); GUATEMALA, Dueñas (*Champion*); PANAMA, Volcan de Chiriqui (*Champion, Arcé*).—AMAZONS, Para[1]; BRAZIL[1].

This fine species is found over a very extended range of country, but does not appear to be common anywhere; it is most nearly allied to *C. bellatrix* (Cram.), from Guiana and Brazil.

2. **Crinodes ritsemæ.**

Crinodes ritsemæ, Butl. Ann. & Mag. Nat. Hist. 5th ser. ii. p. 178[1].

Hab. PANAMA, near the city (*J. J. Walker*), Bugaba 800 to 1000 feet (*Champion*).—UPPER AMAZONS, Rio Madeira[1].

This is a smaller and darker-coloured insect than *C. besckei*; I have both sexes before me.

3. **Crinodes guatemalena,** sp. n. (Tab. XXV. fig. 2, ♂.)

Male. Primaries dark silky-brown, thickly irrorated with darker brown streaks, the outer margin paler brown and narrowly edged with black, an indistinct waved black line crossing beyond the middle from the costal margin to the inner margin and then extending upwards to near the base, a blackish spot at the end of the cell; secondaries very pale fawn-colour, broadly bordered with dark brown (still more broadly so at the apex), and with a narrow submarginal fawn-coloured band (edged on the outer margin with dark brown) from the apex to the anal angle, the fringe pale fawn-colour; the underside of both wings pale silky fawn-colour, slightly darker on the outer half of the primaries: head dark brown; thorax above and beneath dark brown, the base above fawn-coloured; abdomen above fawn-coloured, becoming darker near the anus, the anal tuft of long scales dark reddish-brown, beneath brown; antennæ and palpi brown;

legs pale greyish-brown. *Female* similar to the male, but lighter in colour. Expanse, ♂, $2\frac{3}{4}$ inches; ♀, $3\frac{1}{4}$ inches.

Hab. GUATEMALA, Panima in Vera Paz (*Champion*).

This fine insect is very distinct from all the other described species of the genus, the primaries being very differently coloured.

OPHITIS.

Ophitis, Felder, Reise d. Nov. Lep. t. 97. f. 10, Erkl. der Taf. 75 bis 107, p. 7 (1874).

Felder founded this genus upon a single species, *O. magnaria*, from Guiana; I have now to add a second from the State of Panama. *Ophitis* appears to be closely allied to *Dudusa*, Walker, a genus containing a single species, from North China.

1. **Ophitis cyllota,** sp. n. (Tab. XXV. fig. 14.)

Primaries of a uniform fawn-colour, thickly irrorated with dark brown scales (especially near the outer margin), and with two indistinct whitish lines at the end of the cell; secondaries reddish fawn-colour, thickly irrorated with dark brown and whitish scales near the anal angle and along part of the inner margin, a small black streak at the anal angle; the underside of both wings pale fawn-colour, thickly speckled with dark brown scales: head and thorax brownish fawn-colour; abdomen above pale greyish, the base brownish fawn-colour, each segment broadly banded with black, the anus yellowish fawn-colour, beneath dark brown; antennæ, palpi, and legs brown. Expanse 4 inches.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

One specimen. This insect is allied to *O. magnaria*, Felder, from which it is at once distinguished by the uniform colour of the primaries, and the entire absence of the black margin from the secondaries, and also by the black bands on the abdomen; it moreover differs in many of the minor markings on the primaries.

RHUDA.

Rhuda, Walker, Cat. xi. p. 621.

Walker founded this genus upon a single species, *R. basifera*, from Rio Janeiro, and placed it in the Noctuidæ; it appears to me to belong to the Notodontidæ, and I accordingly place it in that family.

1. **Rhuda splendens,** sp. n. (Tab. XXV. fig. 13, ♂.)

Primaries greenish-brown, with a silvery-white crescent-shaped mark extending from near the base to the apex, where it is widened into a broad patch, and an uneven waved line from near the anal angle to the end of the cell; secondaries reddish-brown, palest from the base to about the middle, and with a darker mark at the anal angle, the fringe pale brownish-yellow; the underside of the primaries pale greenish-brown, with the outer margin pale cream-colour, that of the secondaries pale cream-colour, shaded with brown along the costal margin: head and tegulæ greenish-brown; thorax greenish-brown, brown in front; palpi and legs brown; abdomen above and beneath pale reddish-brown; antennæ dark brownish-black. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

One example. This beautiful species is very distinct; the specimen was probably

very much greener in colour when captured, but no doubt, like many other similarly coloured species of Heterocera, the colour very quickly fades or changes to a yellowish-brown.

NYSTALEA.

Nystalea, Guénée, Spécies général des Lép. vi. p. 122 (1852); Walker, Cat. xi. p. 633.
Trigonophora, Hübner, Verz. bek. Schmett. p. 217 (partim).

Guénée included three species in this genus—*N. conchyfera*, from Saint Thomas, *N. superciliosa*, from Cayenne, and *N. ebalea* (Cramer), from Surinam; two of these extend into our country, whence I have also to record five other known species; numerous others have been described by Guénée, Walker, and Felder. The genus is apparently confined to Tropical America and the Antilles.

1. Nystalea ebalea.

Phalæna Noctua ebalea, Cram. Pap. Exot. iv. p. 41, t. 310. f. C [1].
Nystalea ebalea, Guén. Sp. Gén. Lep. vi. p. 123; Walk. Cat. xi. p. 634 [2].

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Surinam [1 2].

N. conchyfera, Guénée, may be referable to this species, but Guénée's and Cramer's figures are very different. The Central-American specimens before me undoubtedly belong to *N. ebalea*, Cramer; though they are not quite so dark in colour the markings are similar.

2. Nystalea superciliosa.

Nystalea superciliosa, Guén. Sp. Gén. Lep. vi. p. 123 [1]; Walk. Cat. xi. p. 635 [2].

Hab. PANAMA, Volcan de Chiriqui (*Arcé, in mus. D.*), Caldera in Chiriqui 1200 feet (*Champion*).—GUIANA, Cayenne [1 2]; SANTO DOMINGO [2].

This is the largest and most darkly-coloured species of the genus.

3. Nystalea guttiplena.

Nystalea guttiplena, Walk. Cat. xi. p. 635.

Hab. PANAMA (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Bogota (*mus. D.*).

This insect was described from an unknown locality.

4. Nystalea inchoans.

Nystalea inchoans, Walk. Cat. xi. p. 636 [1].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA [1].

A specimen from Chiriqui in Dr. Staudinger's collection agrees well with Walker's type of this species.

5. Nystalea attenuata.

Nystalea attenuata, Walk. Cat. xv. p. 1743[1].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA[1].

This species is very close to *N. inchoans*. Dr. Staudinger's specimen is the only one I have seen from our country.

6. Nystalea seminivea.

Heterocampa seminivea, Walk. Characters of undescribed Lep. Heter. p. 17 (1869)[1].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—SOUTH AMERICA, Lima[1].

The type of this insect is now in the British Museum. A specimen from Chiriqui in Dr. Staudinger's collection agrees perfectly with it.

7. Nystalea ocellata.

Nystalea ocellata, Walk. Cat. xxxiii. p. 760[1].

Hab. MEXICO, Oaxaca (*Sallé*[1]).

Unknown to me.

ECREGMA.

Ecregma, Walker, Cat. xii. p. 966; Butler, Trans. Ent. Soc. Lond. 1879, p. 34.

This genus was founded by Walker upon a single species from Venezuela, and a second, from the Amazons, has been subsequently added by Butler; both these are now known from our country. *Ecregma* is very closely allied to the genus *Hemiceras*.

1. Ecregma transducta.

Ecregma tranducta (err. typog.), Walk. Cat. xii. p. 967[1].

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, Las Mercedes 3000 feet (*Champion*).—VENEZUELA[1].

Our specimens agree well with the Venezuelan type in the British Museum.

2. Ecregma modesta.

Ecregma modesta, Butl. Trans. Ent. Soc. Lond. 1879, p. 34[1].

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, Cerro Zunil 4000 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—AMAZONS[1].

This species is very closely allied to the preceding.

HEMICERAS.

Hemiceras, Guénée, Spécies général des Lép. vi. p. 379 (1852); Walker, Cat. xii. p. 969, & xxxiii. p. 851; Butler, Trans. Ent. Soc. London, 1879, p. 35.

Salamboria, Walker, Cat. xxxiii. p. 855.

Thirteen species were placed by Guénée in this genus, Walker and Butler subsequently adding seven others; with the exception of one from North America, the known localities for all of these is Tropical America. In our country *Hemiceras* is well represented by eight species, but Tropical South America seems to be its headquarters. Many of the species are very much alike; they, however, appear to be very constant in their characters, as in the extensive series of specimens before me none show any variation in colour or markings.

1. Hemiceras pallidula.

Hemiceras pallidula, Guén. Spécies général des Lép. vi. p. 381, t. 13. f. 1[1]; Walk. Cat. xii. p. 971[2].

Hab. MEXICO, Presidio (*Forrer*), Cordova (*Rümeli*), Jalapa (*Schaus*); PANAMA, Bugaba 1000 feet (*Champion*).—BRAZIL [1 2], Rio Janeiro (*mus. D.*)

This insect has a very extended range; the specimens before me from Rio Janeiro agree well with those from Central America.

2. Hemiceras trinubila.

Hemiceras trinubila, Guén. Spécies général des Lép. vi. p. 382[1]; Walk. Cat. xii. p. 971[2].

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, Coatepeque 1300 feet, Las Mercedes 3000 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL [1 2].

We have received a good series of specimens from Guatemala, a few only from the State of Panama.

3. Hemiceras pulverula.

Hemiceras pulverula, Guén. Spécies général des Lép. vi. p. 382[1]; Walk. Cat. xii. p. 972[2]; Butl. Trans. Ent. Soc. Lond. 1879, p. 35[3].

Hab. GUATEMALA, Coatepeque 1300 feet, Senahu (*Champion*); PANAMA, Bugaba 800 to 1000 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL [1 2]; AMAZONS [3].

This species appears to be not uncommon in our country, but I have not seen any specimens from South America.

4. Hemiceras deornata.

Salamboria deornata, Walk. Cat. xxxiii. p. 855[1].

Hab. MEXICO, Jalapa (*Schaus*).—COLOMBIA, Bogota [1].

This insect is allied to *H. pulverula.* The type of *Salamboria deornata,* Walk., is now in my own collection, and shows that *Salamboria* is undoubtedly congeneric with *Hemiceras.* The specimen obtained by Mr. Schaus is a female, that described by Walker a male.

5. **Hemiceras sigula.**

Hemiceras sigula, Guén. Spécies général des Lép. vi. p. 384[1]; Walk. Cat. xii. p. 973[2].

Hab. PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).—BRAZIL[1 2].

One specimen of this species was sent from Chiriqui.

6. **Hemiceras violascens.**

Hemiceras violascens, Guén. Spécies général des Lép. vi. p. 384[1]; Walk. Cat. xii. p. 973[2].

Hab. COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL[1 2].

This is the largest of the Central-American species; we have only received one example from Costa Rica and one from the State of Panama.

7. **Hemiceras mora,** sp. n.

Male. Primaries pinkish fawn-colour, crossed by two narrow indistinct brown lines (the first close to the base, the second beyond the middle and nearest the outer margin), and with an indistinct blackish dot at the end of the cell; secondaries uniform brownish fawn-colour, the fringe much paler; the underside of the primaries pale fawn-colour, that of the secondaries silky-white: head white, the thorax reddish fawn-colour, the abdomen dusky brown; antennæ dark brown; legs pale brown. *Female* similar to the male, but duller in colour. Expanse, ♂, $1\frac{1}{2}$ inch; ♀, $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalapa(*Schaus*); GUATEMALA, Cerro Zunil 4000 to 5000 feet(*Champion*).

Both sexes of this species were sent. *H. mora* is allied to *H. violascens*, but considerably paler in colour, and with the bands more distinct and differently placed; at the same time it is just possible that the insect may be one of those described by Guénée, several of which I have not seen, and cannot make out with any certainty from his descriptions.

8. **Hemiceras alba.**

Hemiceras alba, Walk. Cat. xxxiii. p. 851[1].

Hab. MEXICO, Paso de San Juan (*Schaus*); HONDURAS (*Dyson*[1]).—COLOMBIA, Bogota (*mus. D.*).

COMIDAVA.

Comidava, Walker, Cat. xxvi. p. 1695.

Two species from Tropical South America were placed in this genus by Walker; one of these also inhabits our country. *Comidava* is placed by its describer in the Geometridæ; it is, however, undoubtedly very closely allied to the genus *Hemiceras*, Guénée, which I believe is rightly placed in the Notodontidæ.

1. **Comidava obliquilinea.**

Comidava obliquilinea, Walk. Cat. xxvi. p. 1695[1].

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, Las Mercedes 3000 feet, Cerro Zunil 4000 feet (*Champion*).—VENEZUELA[1]; BRAZIL[1].

The two specimens obtained by Mr. Champion in Guatemala agree well with Walker's type in the National collection.

2. **Comidava albulana,** sp. n.

Male. Primaries above greyish-white, sparingly irrorated with small dark scales (more distinctly so along the inner margin), with a narrow submarginal brown line edged with yellow on the outer side crossing from the apex to near the middle of the inner margin, and a small dark-coloured streak at the end of the cell; secondaries pure silky-white, slightly tinted with very pale fawn-colour near the anal angle; the underside of both wings silky-white, the costal margin of the primaries pale yellowish-white: head, thorax, abdomen, and legs white; antennæ fawn-coloured. *Female* similar to the male, but slightly larger, and the primaries with a second narrow zigzag line crossing from the inner margin near the base but not reaching the costal margin. Antennæ pectinated in the male, simple in the female. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Jalapa (*Schaus*).

Two examples, one of each sex.

GADIANA.

Gadiana, Walker, Cat. xxxiii. p. 854.

Walker founded this genus upon a single species from Colombia; this is now known from Chiriqui. *Gadiana* appears to me to be very closely allied to the genus *Hemiceras.*

1. **Gadiana rufescens.**

Gadiana rufescens, Walk. Cat. xxxiii. p. 854[1].

Hab. MEXICO, Paso de San Juan (*Schaus*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA, Bogota[1].

A female example from Chiriqui in Dr. Staudinger's collection agrees perfectly with Walker's types; the latter are now contained in my own collection.

ORÆSIA.

Oræsia, Guénée, Spécies général des Lép. vi. p. 362 (1852); Walker, Cat. xii. p. 942.

Guénée and Walker include in this genus several species from India, China, Natal, and the Antilles. *Oræsia* is exceedingly closely allied to the genus *Calpe,* Treitsch., if indeed distinct therefrom. Two species occur within the limits of our fauna.

1. **Oræsia excitans.**

Oræsia excitans, Walk. Cat. xii. p. 942[1].

Hab. MEXICO, Cordova (*Höge*), Jalapa (*Schaus*); GUATEMALA, San Isidro 1600 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, near the city (*J. J. Walker*).—ANTILLES, Santo Domingo[1].

One of the specimens from the Volcan de Atitlan is considerably paler in colour than any of the others before me, but the markings are identical.

2. Oræsia æqualis.

Gonodonta æqualis, Walk. Cat. xii. p. 956 [1].

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Arcé, in mus. D.*).—AMAZONS, Santarem [1]; SOUTH-EAST BRAZIL.

This dull-coloured species is found over a very extended range of country; it does not show the slightest variation from any locality.

GADERA.

Gadera, Walker, Cat. xii. p. 964.

Two species were included in this genus by Walker—one from an unknown locality, the other from Brazil; both these inhabit Central America. *Gadera* is allied to *Oræsia*.

1. Gadera incitans.

Gadera incitans, Walk. Cat. xii. p. 964.

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, Senahu and Sabo in Vera Paz (*Champion*); COSTA RICA, Cache (*Rogers*).

The type is without locality; Central-American specimens agree well with it.

2. Gadera repellens.

Gadera repellens, Walk. Cat. xii. p. 965 [1].

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—BRAZIL [1].

One specimen only of this beautiful species was sent from Chiriqui.

GONODONTA.

Gonodonta, Hübner, Verz. bek. Schmett. p. 263 (1816); Guénée, Spécies général des Lép. vi. p. 364 (1852); Walker, Cat. xii. p. 946.

This genus is entirely confined to the New World, Tropical South America being its headquarters. In our country *Gonodonta* is represented by fifteen species, most of which extend over a wide range of country. The genus is allied to *Oræsia*, and I think it best placed in the Notodontidæ.

1. Gonodonta teretimacula.

Gonodonta teretimacula, Guénée, Spécies général des Lép. vi. p. 367 [1]; Walk. Cat. xii. p. 947 [2].

Gonodonta velata, Walk. Cat. xii. p. 957.

Gonodonta dentata, Feld. Reise d. Nov. Lep. t. 111. f. 4, Erkl. der Taf. 111. no. 4 [3].

Hab. MEXICO [1 2], Cordova (*Rümeli*); PANAMA, David in Chiriqui (*Champion*).—COLOMBIA [1 2]; GUIANA [1 2]; AMAZONS [3]; ANTILLES, Guadaloupe [1 2], Dominica (*Angas, mus. D.*).

This widely-distributed species varies slightly in the size of the yellow spot on the secondaries, this spot being much larger in some examples than in others.

2. Gonodonta clotilda.

Phalæna Noctua clotilda, Stoll, Suppl. Cram. Pap. Exot. v. p. 153, t. 34. f. 4[1]; Guén. Spécies général des Lép. vi. p. 369[2]; Walk. Cat. xii. p. 949.

Hab. Mexico, Jalapa (*Schaus*).—Guiana, Surinam [1 2 3], Berbice [1 2 3]; Amazons, Ega [3], Villa Nova [2 3].

The only specimen of this southern species I have seen from our country is in the collection of Mr. Schaus; it is allied to *G. teretimacula.*

3. Gonodonta correcta.

Gonodonta correcta, Walk. Cat. xii. p. 947[1].

Hab. Mexico[1], Jalapa (*Schaus*).

The type and a specimen in Mr. Schaus's collection are all I have seen of this species.

4. Gonodonta soror.

Phalæna soror, Cram. Pap. Exot. iii. p. 150, t. 276. f. B[1].

Gonodonta soror, Guén. Spécies général des Lép. vi. p. 368[2]; Walk. Cat. xii. p. 948[3]; Feld. Reise d. Nov. Lep. t. 111. f. 13, Erkl. der Taf. 111. no. 13[4].

Hab. Guatemala, San Isidro 1600 feet (*Champion*); Panama, Volcan de Chiriqui (*Arcé, in mus. D.*).—Guiana, Surinam [1 3]; East Peru; Amazons [3], Villa Nova [3]; Brazil [4]; Antilles, Guadaloupe [2], Santo Domingo [3].

This species is common throughout Tropical South America, but appears to be much rarer in our country.

5. Gonodonta bidens.

Gonodonta bidens, Geyer, in Hübn. Zutr. Samml. exot. Schmett. iv. p. 24, ff. 695, 696[1]; Guén. Spécies général des Lép. vi. p. 369[2]; Walk. Cat. xii. p. 949[3].

Hab. Mexico, Coatepec (*Schaus*); Panama, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—Antilles, Cuba [1 2 3].

The specimen sent from the Volcan de Chiriqui agrees with Geyer's figure, and is perfectly distinct from *G. soror.*

6. Gonodonta nutrix.

Phalæna Noctua nutrix, Cram. Pap. Exot. iv. p. 46, t. 312. f. B[1].

Gonodonta nutrix, Hübn. Verz. bek. Schmett. p. 263; Guén. Spécies général des Lép. vi. p. 370[2]; Walk. Cat. xii. p. 949[3].

Hab. Panama, Volcan de Chiriqui (*Arcé, in mus. D.*).—Guiana, Surinam [1 2 3], Cayenne [2 3]; Antilles, Jamaica [3], Haiti [2 3].

One specimen of this species was obtained some years ago by Arcé in Chiriqui. The

larva and pupa are described and figured by Stoll (*cf.* Cramer, op. cit. v. p. 92, t. 18. f. 8).

7. **Gonodonta immacula.**

Gonodonta immacula, Guén. Spécies général des Lép. vi. p. 365 [1]; Walk. Cat. xii. p. 951 [2].

Hab. MEXICO, Jalapa (*Schaus*); HONDURAS (*Dyson* [2]).—GUIANA, Cayenne [1 2]; BRAZIL [1 2].

I have only seen two specimens of this species from Central America. *G. immacula* is closely allied to the following species.

8. **Gonodonta choninea.**

Phalæna Noctua choninea, Cram. Pap. Exot. iv. p. 42, t. 310. f. F [1].

Athysania choninea, Hübn. Verz. bek. Schmett. p. 263.

Gonodonta choninea, Guén. Spécies général des Lép. vi. p. 366 [2]; Walk. Cat. xii. p. 951 [3].

Hab. GUATEMALA, San Isidro 1600 feet (*Champion*); PANAMA, Bugaba (*Champion*), Volcan de Chiriqui (*Ribbe*).—GUIANA, Surinam [1 2 3]; AMAZONS, Villa Nova [3], Ega [3]; SOUTH-EAST BRAZIL.

This species occurs over a very extended range of country. The specimens from Central America are rather smaller than those from more southern localities; they have the markings more indistinct, but agree well with others before me from San Paulo, Brazil.

9. **Gonodonta ——?**

Hab. PANAMA, Obispo (*Salvin*).

A single very worn specimen of a small, but probably distinct, species found by Mr. Salvin on the isthmus of Panama; it is apparently allied to *G. choninea.*

10. **Gonodonta lincus.**

Phalæna Noctua lincus, Cram. Pap. Exot. i. p. 79, t. 50. f. H [1].

Bombyx lincus, Fabr. Ent. Syst. iii. 1, p. 456.

Bombix lincus, Oliv. Enc. Méthod. v. p. 79 [2].

Gonodonta lincus, Hübn. Verz. bek. Schmett. p. 263; Guén. Spécies général des Lép. vi. p. 366 [3]; Walk. Cat. xii. p. 952 [4].

Hab. GUATEMALA, Las Mercedes 3000 feet, San Isidro 1600 feet (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe*).—GUIANA, Surinam [1 2 3]; BRAZIL [4].

Cramer's figure of this species is a very poor one; the Central-American specimens before me are slightly paler in colour, but in other respects agree with it.

11. **Gonodonta primulina,** sp. n. (Tab. XXV. fig. 15.)

Primaries primrose-colour, reddish-brown at the base and along the costal margin and at the apex, a small black dot at the end of the cell, and a row of six very narrow waved reddish-brown lines from the apex to the anal angle; secondaries orange-yellow, broadly bordered with black from the apex to the anal angle and thence along the inner margin to the base, the fringe orange-yellow; the underside of the primaries

black, with the base and the costal and outer margins pale yellow, that of the secondaries uniform pale yellow, bordered with black from the apex to near the anal angle, the black border broken into spots by the yellow veins crossing it: head and palpi above white; collar and tegulæ fawn-coloured, edged with reddish-brown; thorax and abdomen above brownish-black, beneath yellowish-white, the anus yellow; antennæ and legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Panima in Vera Paz, Cahabon (*Champion*).

This beautiful species is allied to *G. latimacula*, Guénée, from Colombia, but very distinct.

12. Gonodonta pyrgo.

Phalæna pyrgo, Cram. Pap. Exot. ii. p. 65, t. 139. f. D [1].

Gonodonta serix, Guén. Spécies général des Lép. vi. p. 370 [2].

Gonodonta pyrgo, Guén. l. c. p. 371 [3]; Walk. Cat. xii. p. 953 [4].

Hab. MEXICO, Jalapa, Paso de San Juan (*Schaus*), Cordova (*Rümeli*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*, *Ribbe*).—COLOMBIA [2 4]; VENEZUELA [4]; GUIANA, Surinam [1 3 4]; AMAZONS, Ega [4]; BRAZIL [2 4].

This common Tropical-American insect we are now able to trace northwards to Mexico.

13. Gonodonta holosericea.

Gonodonta holosericea, Guén. Spécies général des Lép. vi. p. 371 [1]; Walk. Cat. xii. p. 954 [2].

Hab. COSTA RICA, Cache, Rio Sucio, Irazu 6000 to 7000 feet (*Rogers*).—COLOMBIA [1 2]; VENEZUELA [2].

The Costa Rican specimens before me agree with one from Venezuela in the National collection.

14. Gonodonta hesione.

Phalæna hesione, Drury, Ill. Exot. Ins. iii. p. 29, t. 22. f. 2 [1].

Gonodonta uncina, Hübn. Zutr. Samml. exot. Schmett. i. p. 11, ff. 35, 36 [2]; Verz. bek. Schmett. p. 263.

Gonodonta hesione, Guén. Spécies général des Lép. vi. p. 372 [3]; Walk. Cat. xii. p. 954 [4].

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, Pantaleon 1700 feet, Panima in Vera Paz (*Champion*); PANAMA, Taboga Island (*J. J. Walker*).—COLOMBIA [3 4]; VENEZUELA [4]; ECUADOR; EAST PERU; AMAZONS, Pará [3]; BRAZIL [1 2 4]; ANTILLES, Dominica.

15. Gonodonta sinaldus.

Gonodonta sinaldus, Guén. Spécies général des Lép. vi. p. 372 [1]; Walk. Cat. xii. p. 954 [2].

Hab. MEXICO, Vera Cruz, Jalapa (*Schaus*); GUATEMALA, Panima in Vera Paz, Cahabon, San Gerónimo, San Isidro 1600 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*, *Ribbe*).—COLOMBIA [1 2]; VENEZUELA [2]; ECUADOR.

In our country this species appears to be very common. *G. sinaldus*, to some extent, varies in colour, and also in the width of the black marginal band on the secondaries.

The following species was overlooked when my remarks on this genus were written:—

16. **Gonodonta elegans,** sp. n. (Tab. XXVI. fig. 1.)

Primaries pale glossy fawn-colour, almost yellow at the base, the costal margin broadly bordered with white from the apex almost to the base, a narrow white line crossing the wing from the costa to the inner margin close to the base, and an indistinct submarginal whitish line extending from the apex to the anal angle, the outer margin whitish; secondaries pale primrose-colour, broadly bordered with black from the apex to near the anal angle; the underside of both wings very pale yellowish-white, slightly dusky near the apex of the primaries: head, thorax, and abdomen greyish, the tips of the palpi yellow; antennæ yellowish-brown; legs yellowish-white. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, San Gerónimo (*Champion*).—SOUTH-EAST BRAZIL.

A very distinct species, of which I have only seen four specimens, two from our country and two from Rio Janeiro. It is allied to *G. sinaldus*, Guén.

Fam. NOCTUIDÆ.

The number of species included by authors in the Noctuidæ is very great, and representatives of the family inhabit all parts of the globe. The arrangement here adopted is that of Guénée, and it is the one upon which Walker based his Catalogue. Many of the genera are very unsatisfactorily defined, and the same remark applies to some of the numerous "subfamilies" or "groups" into which this family has been divided. In fact, it is probable that a large number of the so-called genera will have to be sunk as soon as it is possible to critically examine them. Characters derived from the neuration are in many cases certainly not of generic value in this family. It is not, however, within the scope of this publication to work out these points, it being more a matter of convenience to us to follow Guénée's arrangement than to attempt another that could in no way be complete or satisfactory.

Most of the species of Noctuidæ are night-fliers, and they are seldom to be met with in the daytime.

Subfam. *CYMATOPHORINÆ.*

THYATIRA.

Thyatira, Hübner, Verz. bek. Schmett. p. 236 (1816); Walker, Cat. ix. p. 6.

Hübner founded this genus upon *Phalæna Noctua batis*, Linn. In Walker's Catalogue five species are included in it, and since the publication of this several others have been described by Moore from the Oriental Region. In our country the genus is represented by four species, three of which are here described.

1. **Thyatira batis,** var. **mexicana.**

Thyatira batis, var. *mexicana,* H. Edwards, Papilio, iv. p. 16[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*[1]); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The examples received from Chiriqui agree well with Edwards's description. The insect is extremely close to *T. batis*, and chiefly differs from it in having a row of spots on the outer margin of the primaries. From South-east Brazil we have specimens of *T. batis* that are perfectly conspecific with English ones; the species has also been recorded from Japan.

2. **Thyatira hersilia,** sp. n. (Tab. XXVI. fig. 2.)

Primaries dark dull brown, crossed about the middle by a number of very indistinct darker brown waved lines, with a spot at the base nearest the inner margin, two on the costal margin, one of elongate shape at the apex, one on the outer margin, and a small one at the apex, dusky white; secondaries brown, palest at the base, with a row of marginal lines extending from the apex to near the anal angle, the fringe brownish-white; the underside of both wings pale brown, without white markings, and each with two submarginal rows of darker brown lines extending from the apex to the anal angle: head, the thorax in the middle, and the abdomen dark brown, the sides of the thorax greyish-white, the anus pale yellowish-brown; antennæ, palpi, and legs dark brown. Expanse 2 inches.

Hab. GUATEMALA, Capetillo (*Champion*).

One specimen.

3. **Thyatira heurippa,** sp. n. (Tab. XXVI. fig. 3.)

Primaries pale fawn-colour, the costal margin broadly bordered from the base to the apex with white (edged with reddish-brown from the base to the middle), a large dark brown **V**-shaped mark extending across the wing from the costal margin to near the middle and here divided by a narrow white line from a dark band extending to the inner margin (the latter edged with white), a small **V**-shaped dark brown mark at the apex, and several rows of very minute reddish-brown spots extending from the apex to the anal angle, the latter whitish; secondaries dark brown, palest at the base and anal angle, the fringe pale reddish-fawn-colour; the underside of the primaries dark blackish-brown, with the costal, outer, and inner margins paler, and the **V**-shaped markings as above but not so distinct, that of the secondaries reddish-brown, both wings with two narrow waved submarginal dark brown lines extending from the apex to the inner margin: head and front of the thorax dark brown, the collar and base of the tegulæ white, the rest of the thorax and tegulæ dark fawn-colour; the abdomen reddish-brown, the anus fawn-colour; palpi, antennæ, and legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

This fine insect, of which only two specimens were captured, is quite distinct from all the known species of the genus, and it is not closely allied to any yet described.

4. **Thyatira (?) hypatia,** sp. n. (Tab. XXVI. fig. 4.)

Primaries of a pale olive-colour, much shaded with pink-brown and white, with a broken black line near the apex extending from the costal margin towards the outer margin but not reaching it, a black mark close to the anal angle, several black spots near the base, and a pinkish semicircular spot on the inner margin nearest the anal angle, the centre of the wing whitish; secondaries glossy pale olive-brown, with the outer margins broadly bordered with brown, a pinkish spot at the anal angle; both wings narrowly edged with black: head, thorax, and abdomen pale brown, the tegulæ and a few scales at the base of the abdomen pinkish; (antennæ and legs wanting). Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Bugaba (*Champion*).

We include this beautiful insect in the genus *Thyatira* with considerable doubt; in many respects it very closely resembles the species of that genus, but the palpi are longer

and the head does not seem to be so thickly clothed with hairs. The single specimen received has unfortunately lost the antennæ, and is considerably damaged about the head and thorax: this to some extent may be the cause of the apparent differences.

Subfam. *BRYOPHILINÆ.*

GRAMMOPHORA.

Grammophora, Guénée, Sp. gén. des Lép. v. p. 30 (1852); Walker, Cat. ix. p. 28.

Of this genus we have, as yet, only received an example of a single species from our country. The three referred to it by Walker are all from North America.

1. **Grammophora chaldera,** sp. n. (Tab. XXVI. fig. 5.)

Primaries reddish-brown mottled with silvery-white, with a bronzy-green spot at the end of the cell, and several indistinct green streaks close to the base; secondaries silky-brownish-white: head, thorax, antennæ, and legs brown, the abdomen pale brown. Expanse $1\frac{1}{2}$ inch.

Hab. Costa Rica, Volcan de Irazu 6000 feet (*Rogers*).

A single worn specimen only.

Subfam. *BOMBYCOINÆ.*

PANTHEA.

Panthea, Hübner, Verz. bek. Schmett. p. 202 (1816).
Diphtera, Walker, Cat. ix. p. 31 (pars).

Two species of this genus inhabit Central America.

1. **Panthea cavillator.**

Diphtera cavillator, Walk. Cat. ix. p. 37 [1].

Hab. Mexico [1], Jalapa (*Höge*).

The single specimen received agrees well with Walker's type in the National Collection; the species closely resembles the European *P. cœnobita.*

2. **Panthea pythion,** sp. n. (Tab. XXVI. fig. 6.)

Primaries white, crossed by many waved black lines; secondaries pure white; the underside of both wings pure white: head, collar, thorax, and tegulæ white spotted with black, the abdomen white; antennæ black. Expanse 2 inches.

Hab. Panama, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

Allied to *P. cavillator*, but very distinct. The numerous waved black lines on the primaries are much wider apart, and in some specimens they become very indistinct; and the underside of both wings is pure white.

ACRONYCTA.

Acronicta, Ochsenheimer, Schmett. Europ. iv. p. 62 (1816).
Acronycta, Treitschke, Schmett. Europ. v. 1, p. 3 (1825); Walker, Cat. ix. p. 40.

Acronycta is represented in our country by two species, one from Mexico, the other from the Los Altos region of Guatemala. A large number of species inhabit North America, and the genus is also common to Europe and Africa.

1. **Acronycta dolens,** sp. n. (Tab. XXVI. fig. 7.)

Primaries dull greyish-black speckled with grey, a greyish spot at the end of the cell, two waved greyish marginal lines extending from the apex to the anal angle, and a greyish patch on the middle of the inner margin, the latter crossed by several indistinct black waved lines; secondaries white, shaded with brown along the costal margin to the apex, and from the apex to the anal angle narrowly bordered with blackish-brown; the underside of both wings silky-white, each shaded with brownish-black along the costal margin, a very distinct discal spot on the secondaries black: head, thorax, and abdomen greyish-brown; antennæ dark brown. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalapa (*Höge*).

One specimen. *A. dolens* is closely allied to the European *A. megacephala*, but is considerably darker in colour.

2. **Acronycta dædala,** sp. n. (Tab. XXVI. fig. 8.)

Primaries dull mouse-colour, crossed near the base from the costal margin to the inner margin by two indistinct waved narrow black lines; secondaries mouse-colour, palest at the base, the fringe white: head, thorax, and abdomen mouse-colour; antennæ and legs brownish. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Quezaltenango 7800 feet (*Champion*).

One specimen only of this dull-coloured species has been received.

Subfam. *LEUCANIINÆ.*

LEUCANIA.

Leucania, Ochsenheimer, Schmett. Europ. iv. p. 81 (1816); Walker, Cat. ix. p. 79.

In Walker's Catalogue eighty-eight species are included in this widely-distributed genus, and many others have since been described. We have as yet only received six species from Central America; one or two, however, of these appear to be common and widely distributed.

1. **Leucania unipuncta.**

Noctua unipuncta, Haw. Lep. Brit. p. 174 (1803)[1].
Heliophila unipuncta, Grote, List of North-American Moths, p. 30 (1882)[2].
Leucania extranea, Guén. Sp. gén. des Lép. v. p. 77[3]; Walk. Cat. ix. p. 93[4].

Hab. NORTH AMERICA[2], Georgia, Florida[3].—MEXICO, Milpas in Durango 5900 feet (*Forrer*), Cuernavaca in Morelos (*H. H. Smith*), Mexico city (*Höge*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui 3000 to 6000 feet (*Champion*).—COLOMBIA[2]; VENEZUELA[4]; BRAZIL[2].—ENGLAND[1].

A very common species in our country, and one that varies slightly in the colour of the secondaries. *L. unipuncta* is also stated to occur in India, Australia, Java, and New Zealand; but it is rather doubtful if the examples from all these widely distant localities are really conspecific with it. Mr. Butler has recorded (Trans. Ent. Soc. Lond. 1882, p. 32) *L. extranea* from the Hawaiian Islands. The larva of *L. unipuncta* is known to North-American Lepidopterists as the "army-worm," and its life-history has been very fully described by Prof. Riley and others.

2. **Leucania multipunctata,** sp. n. (Tab. XXVI. fig. 11.)

Primaries pale fawn-colour, with two black spots in the cell and two below it near the inner margin, a curved row of black dots crossing beyond the middle from the costal margin to the inner margin, and a marginal row of minute black dots extending from the apex to the anal angle; secondaries silky-white shaded with very pale fawn-colour at the apex and along the outer margin, with a marginal row of minute black dots extending from the apex to about the middle of the outer margin; the underside uniformly pale silky fawn-colour, with the black dots as above but very indistinct: head, thorax, abdomen, and legs of the same colour as the primaries; antennæ dark fawn-colour. Expanse $1\frac{3}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

Two specimens of this species are contained in Dr. Staudinger's collection. *L. multipunctata* is not closely allied to any other species known to me, and I am compelled therefore to describe it as new. The primaries are coloured very much as in *L. unipuncta*, but they are more dusky along the costal margin.

3. **Leucania extincta.**

Leucania extincta, Guén. Sp. gén. des Lép. v. p. 79[1].
Heliophila extincta, Grote, List of North-American Moths, p. 30 (1882)[2].
Leucania insueta, Guén. loc. cit. p. 81[3]; Walk. Cat. ix. p. 95[4].
Leucania linita, Guén. loc. cit. p. 81[5]; Walk. Cat. ix. p. 95[6].
Leucania scirpicola, Guén. loc. cit. p. 84[7]; Walk. Cat. ix. p. 96[8].
Leucania antica, Walk. Cat. ix. p. 100[9]; Butl. Trans. Ent. Soc. Lond. 1879, p. 20[10]; Druce, P. Z. S. 1884, p. 322[11].

Hab. NORTH AMERICA[2], New York[3], Florida[1 4 5 6 7 8].—MEXICO, near the city (*Höge*); GUATEMALA, Balheu in Vera Paz, Las Mercedes 3000 feet (*Champion*); PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—SOUTH-EAST BRAZIL; AMAZONS[10]; ANTILLES, Dominica[11].

This common and variable species is found over a very extended range of country. In the large series of specimens before me from the above-mentioned localities scarcely any two are exactly alike, and after careful comparison with others in the National Collection I do not see any reason for separating them in the way Guénée has done. Three of this author's supposed species came from the same locality in Florida; and I have no doubt they are somewhat differently-coloured specimens of one and the same species. *L. antica* is included by Walker in his South-American group of species, and is stated to be from the "West Coast"[9].

4. **Leucania salebrosa.**

Leucania salebrosa, Butl. Ann. & Mag. Nat. Hist. 5th ser. i. p. 80[1]; Ill. Lep. Het. ii. p. 22, t. 28. fig. 10.

Hab. MEXICO, Coatepec (*Brooks*); GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion; Ribbe, mus. Staudinger*).—JAPAN, Yokohama[1].

Our specimens are almost identical with Butler's type from Japan.

5. **Leucania solita.**

Leucania solita, Walk. Cat. ix. p. 99[1].

Hab. MEXICO, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith,* Oct. 1888); GUATEMALA, San Isidro 1000 feet, San Gerónimo, Coban in Vera Paz (*Champion*); HONDURAS (*Miller*[1]); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Bugaba (*Champion*), Volcan de Chiriqui (*Ribbe, mus. Staudinger*).

A common and widely-distributed species in our country, and one showing a considerable amount of variation in the colour of the primaries, the latter being very much darker in some examples than in others.

6. **Leucania diffusa.** (Tab. XXVI. fig. 10.)

Leucania diffusa, Walk. Cat. ix. p. 94[1].

Hab. NORTH AMERICA, Nova Scotia[1].—MEXICO, near the city (*Höge*).

One specimen of this very distinct species was sent by Herr Höge from the city of Mexico.

OBRIMA.

Obrima, Walker, Cat. ix. p. 134 (1856).

A single species from Honduras was included in this genus by Walker. This is the only authority we have for including *Obrima* in our fauna.

1. **Obrima pyraloides.**

Obrima pyraloides, Walk. Cat. ix. p. 135[1].

Hab. HONDURAS (*Dyson*[1], *in Mus. Brit.*).

Subfam. *GLOTTULINÆ.*

EUTHISANOTIA.

Euthisanotia, Walker, Cat. ix. p. 141 (1856).

Philochrysa, Grote, Proc. Ent. Soc. Phil. ii. p. 338 (1863).

Walker founded this genus upon a species described by Cramer.

1. Euthisanotia timais.

Phalæna Noctua timais, Cram. Pap. Exot. iii. p. 148, t. 275. f. B [1].

Euthisanotia timais (*Noctua bombycoides, Diphtera præcipua*), Hübn. Zutr. Samml. exot. Schmett. iii. p. 39, ff. 589, 590.

Xanthopastis timais, Hübn. Verz. bek. Schmett. p. 211.

Glottula timais, Guén. Sp. gén. des Lép. v. p. 116 [2].

Euthisanotia timais, Walk. Cat. ix. p. 142 [3]; Grote, List of North-American Moths, p. 30 (1882)[4]; Druce, P. Z. S. 1884, p. 322 [5]; Möschler, Beitr. zur Schmett.-Faun. Surin. iii. p. 2 [6].

Phalæna Noctua amaryllidis, Anon. Ins. Surinam, i. p. 63, t. 28 [7].

Philochrysa regnatrix, Grote, Proc. Ent. Soc. Phil. ii. pp. 339 [8], 441 [9].

? *Glottula heterocampa*, Guén. Sp. gén. des Lép. v. p. 116 [10].

Hab. North America [2 3 4 8].—Mexico (*Boucard*), Jalapa (*Höge*), Chilpancingo in Guerrero 4600 feet (*H. H. Smith*, June 1888); Costa Rica (*Van Patten, mus. D.*), San Francisco 4500 feet (*Rogers*); Panama, Bugaba (*Champion*), Volcan de Chiriqui (*Ribbe, mus. Staudinger*).—Colombia; Ecuador; Guiana, Surinam [1 3 6 7]; Brazil [10], Rio Janeiro; Antilles, San Domingo [3], Jamaica [3], Dominica [5].

This insect is common and very widely distributed in the warmer parts of America. The specimens before me from Dominica and Jamaica are smaller and paler in colour than any of those from the mainland. *Glottula heterocampa*, Guén., is most likely a variety of this insect. Grote [9] shortly after describing his *Philochrysa regnatrix* discovered that it was synonymous with *Euthisanotia timais*.

EUGLYPHIA.

Euglyphia, Hübner, Verz. bek. Schmett. p. 203 (1816); Walker, Cat. ix. p. 145.

One species only was included in this genus by Hübner.

1. Euglyphia hieroglyphica.

Phalæna hyroglyphica, Cram. Pap. Exot. ii. p. 81, t. 147. f. D [1].

Euglyphia hieroglyphica, Walk. Cat. ix. p. 145 [2].

Bombyx festiva, Fabr. Sp. Ins. ii. p. 194; Mant. Ins. ii. p. 127.

Phalæna Bombyx festiva, Gmel. Syst. Nat. i. 5, p. 2425.

Diphthera festiva elegans, Hübn. Samml. exot. Schmett. i. t. 194, ff. 1–4.

Euglyphia elegans, Hübn. Verz. bek. Schmett. p. 203.

Noropsis fastuosa, Guén. Sp. gén. des Lép. v. p. 117 [3].

Hab. Mexico, Ventanas in Durango, Presidio (*Forrer*), Mazatlan (*Boucard, mus. D.*), Tepetlapa 3000 feet, Venta de Zopilote 2800 feet, Rio Papagaio 1200 feet, and Acapulco in Guerrero (*H. H. Smith*), State of Oaxaca (*Flohr*), Atoyac in Vera Cruz (*Schumann*); Guatemala, El Reposo 800 feet, Zapote, San Gerónimo, El Jicaro in Vera Paz (*Champion*); Costa Rica (*Van Patten*); Panama, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—Colombia [3], Honda; Curaçao [1]; Ecuador; Brazil [2 3], Recife; Antilles, San Domingo [2], Jamaica [2].

This handsome insect appears to be fairly common in Central America. Guatemalan specimens are much paler in colour than those from most other localities, but in all other respects they agree. The examples captured by the late Mr. Forbes at Recife are the largest I have seen. *E. hieroglyphica* was found last year by Mr. H. H. Smith in various parts of the Mexican State of Guerrero and at various dates between the months of June and October.

EUDIPNA.

Eudipna, Walker, Cat. ix. p. 149 (1816).
Acolasis, Hübner, Verz. bek. Schmett. p. 256 (1856) (pars).

Two species were referred to this genus by Walker, both from Surinam. One of these extends northwards to the Colombian State of Panama.

1. Eudipna cedica.

Phalæna Noctua cedica, Cram. Pap. Exot. iv. p. 42, t. 310. f. E [1].
Eudipna cedica, Walk. Cat. ix. p. 150 [2].
Hadena (?) *cedica*, Walk. loc. cit. xi. p. 754 [3].
Ophiusa (?) *cedica*, Walk. loc. cit. xiv. p. 1425 [4].

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Surinam [1 2 3 4].

The specimen from Chiriqui in Dr. Staudinger's collection agrees perfectly with Cramer's figure.

BETUSA.

Betusa, Walker, Cat. ix. p. 151 (1856), & xv. p. 1671 (1858).

A single species, *Noctua chera*, Drury (=*B. phasianus*, Walk.), from Guiana and Brazil, was included in this genus by its describer. We also refer to it *Phalæna amynta*, Cram., an insect now known to extend northwards into our region.

1. Betusa amynta.

Phalæna amynta, Cram. Pap. Exot. iii. p. 100, t. 251. f. E [1].

Hab. PANAMA, Bugaba 1000 feet (*Champion*).—GUIANA, Surinam [1].

A specimen from Bugaba, a male, agrees well with Cramer's figure, except that it has the antennæ pectinated. Cramer's figure apparently represents a female.

GISCALA.

Giscala, Walker, Cat. xv. p. 1671 (1858).

Walker founded this genus upon a single species from Venezuela and Brazil; the second, from Colombia, subsequently added by him, is synonymous with it. This insect inhabits the southern part of Central America.

1. Giscala quadricolor.

Giscala quadricolor, Walk. Cat. xv. p. 1672[1]; Butl. Trans. Ent. Soc. Lond. 1879, p. 20[2].
Giscala semiviridis, Walk. Cat. xxxii. p. 636[3].
Ceroctena pictipennis, Feld. & Rogenh. Reise der Novara, Lep. iv. t. 119. f. 3, Erkl. der Taf. 119[4].

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Bogota[3] (*Birchall, in mus. D.*); VENEZUELA[1]; GUIANA[4]; ECUADOR; BRAZIL[1]; AMAZONS, Ega[1], Rio Javary[2].

Phalæna amynta, Cramer (Pap. Exot. iii. p. 100, t. 306. f. C), may be a synonym of this species, but the figure is so badly drawn that it is impossible to say with certainty. If this should prove to be the case, the name *amynta* cannot be retained for the insect, Cramer having also applied it to a very different species on t. 251. f. E. The type of *Giscala semiviridis*, Walker, is now in my possession, and upon comparing it with that of *G. quadricolor* in the National Collection I find that the two are conspecific. The sexes are very similar.

Subfam. *APAMINÆ.*

Group **GORTYNIDES.**

GORTYNA.

Gortyna, Ochsenheimer, Schmett. Eur. iv. p. 82 (1816); Walker, Cat. ix. p. 154.

Ten species were originally included in this genus by Walker, four from Europe, five from North America, and one from the Cape of Good Hope; and he subsequently added one from Mexico.

1. Gortyna ditissima. (Tab. XXVI. fig. 9.)

Gortyna ditissima, Walk. Cat. xi. p. 716[1].

Hab. MEXICO (*Sallé*[1]); GUATEMALA, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Guatemalan specimens agree perfectly with Walker's type in the National Collection. Our figure is taken from an example from the Volcan de Atitlan.

NÆSIA.

Næsia, Walker, Cat. xv. p. 1741 (1858).

Walker founded this genus upon an insect from Venezuela; this is now known to us from Costa Rica, whence we have also received specimens of the second species here described. *Næsia* appears to be very closely allied to *Gortyna*, but to differ in the third joint of the palpi being slightly longer, the primaries not quite so much rounded, and the abdomen clothed with tufts of long hairs.

1. **Næsia mœsta.** (Tab. XXVI. fig. 12.)

Næsia mœsta, Walk. Cat. xv. p. 1742 [1].

Hab. Costa Rica, Rio Sucio (*Rogers*).—Venezuela [1].

Our specimen from Costa Rica only differs from the type in being a shade darker in colour.

2. **Næsia dolens**, sp. n. (Tab. XXVI. fig. 13.)

Primaries pale fawn-colour, crossed from the costal margin to the inner margin by several very indistinct narrow waved darker-coloured lines, with a dark brown marking at the end of the cell and several dull brown spots along the outer margin; secondaries uniform dark brown; the underside of both wings pale silky fawn-colour: head, thorax, and abdomen brownish-fawn-colour; antennæ pale brown. Expanse 2 inches.

Hab. Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Allied to *N. mœsta*, but a smaller and paler-coloured insect.

UFEUS.

Ufeus, Grote, Bull. Buff. Soc. i. p. 101 (1873).

Grote states that this genus is allied to *Agrotis*; the two species he included in it also inhabit Eastern Mexico.

1. **Ufeus satyricus.**

Ufeus satyricus, Grote, Bull. Buff. Soc. i. p. 101, t. 3. f. 4 [1]; List of North-American Moths, p. 30 (1882).

Hab. North America, Philadelphia [1].—Mexico, Jalapa (*Höge*, *Schaus*).

Our Mexican specimens of this and the following species agree perfectly with those in the Grote collection now in the National Museum.

2. **Ufeus plicatus.**

Ufeus plicatus, Grote, Bull. Buff. Soc. i. 102 [1]; List of North-American Moths, p. 30 (1882).

Hab. North America, Philadelphia [1].—Mexico, Jalapa (*Höge*).

Group **XYLOPHASIIDES.**

XYLOPHASIA.

Xylophasia, Stephens, Illustr. Brit. Ent., Haust. ii. p. 174 (1829); Walker, Cat. ix. p. 169.

Some of the species of the genus are very widely distributed, and inhabit both Europe and North America.

1. **Xylophasia denterna.**

Xylophasia denterna, Guén. Sp. gén. des Lép. v. p. 140, Noct. t. 4. f. 4 [1]; Walk. Cat. ix. p. 179 [2]; Druce, P. Z. S. 1884, p. 322 [3].

Xylophasia diminuta, Guén. loc. cit. p. 141 [4]; Walk. Cat. ix. p. 180 [5].

Hab. MEXICO, Jalapa (*Schaus*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—COLOMBIA [1 2]; ECUADOR; BRAZIL [1 2 4 5], Rio Janeiro; ANTILLES, Dominica [3].

This species varies considerably, both in markings and colour. Specimens from Central America are darker in tint and smaller than those from South America. Guénée's figure is taken from a very large male example from Brazil, and I have only seen one (and that from the same country) that at all equals it in size. Four specimens only have been received from Central America, but in Ecuador and South Brazil it is a very common insect; Dominican examples are of a more straw-coloured tint. *X. diminuta*, Guén., was based upon a small specimen of this species. Mr. H. H. Smith met with this insect at Atoyac in the month of May.

LAPHYGMA.

Laphygma, Guénée, Sp. gén. des Lép. v. p. 156 (1852); Walker, Cat. ix. p. 187.

Five species were included in this genus by Guénée, and fifteen more were added to it by Walker. *Laphygma* appears to be very widely distributed in both the Old and the New Worlds.

1. Laphygma macra.

Laphygma macra, Guén. Sp. gén. des Lép. v. p. 157, Noct. t. 4. f. 6 [1]; Walk. Cat. ix. p. 189 [2].

Hab. NORTH AMERICA, New York [2], Florida [2].—MEXICO, Jalapa (*Höge*), Teapa in Tabasco (*H. H. Smith*, Feb. 1888), Coatepec (*Brooks*); BRITISH HONDURAS [2], Belize (*Blancaneaux*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA [1]; GUIANA [1]; BRAZIL [1 2]; ANTILLES, Cuba [2].

A common and very wide-ranging species. Guénée's figure is far too highly coloured and the lines on the primaries are not so distinct as represented.

2. Laphygma orbicularis.

Laphygma orbicularis, Walk. Cat. xi. p. 719 [1].

Prodenia ignobilis, Butl. P. Z. S. 1878, p. 485 [2].

Hab. MEXICO, Cordova (*Rümeli*), Las Vigas (*Höge*), Jalapa (*Schaus, Trujillo*), Teapa in Tabasco (*H. H. Smith*, Jan. & Feb. 1888); GUATEMALA, Pantaleon 1700 feet, Las Mercedes 3000 feet (*Champion*); HONDURAS, San Pedro (*G. M. Whitely, in mus. D.*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; SOUTH-EAST BRAZIL; ANTILLES, San Domingo [1], Jamaica [2], Dominica.

This is a common species, and has a very extended range over Tropical America and the Antilles. It varies to some extent in colour, some specimens being much darker than others; the palest individuals in the large series before me are those from San Pedro.

Xylina inquieta, Walk. (Cat. xi. p. 632), the locality of which is unknown, is possibly a synonym of *L. orbicularis*.

3. Laphygma eridania.

Phalæna Noctua eridania, Cram. Pap. Exot. iv. p. 133, t. 358. f. F [1].
Callierges eridania, Hübn. Verz. bek. Schmett. p. 244.
Xylomyges eridania, Guén. Sp. gén. des Lép. v. p. 148.
Xylomyges (?) *eridania*, Walk. Cat. ix. p. 182 [2].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe*).—GUIANA, Surinam [1 2]; SOUTH-EAST BRAZIL.

This species is quite distinct from the one represented by Cramer on his tab. 358. f. E; the latter resembles *Phalæna phytolaccæ*, Abbot & Smith, but is doubtfully synonymous with it. The present insect is labelled *Laphygma externa*, Walker, in the Oxford Museum; this name, however, so far as I am aware, is an unpublished one.

4. Laphygma triplex.

Laphygma triplex, Walk. Cat. xi. p. 721 [1].

Hab. MEXICO, Presidio (*Forrer*), Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*, Oct. 1888); GUATEMALA, Champerico (*Champion*); HONDURAS [1]; PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

This small species is not uncommon in Mexico. It differs from typical *Laphygma* in its smaller size and more slender body, and it may have to be placed eventually in the genus *Galgula*, Guén.; but I have no specimens of the latter before me for comparison.

PRODENIA.

Prodenia, Guénée, Sp. gén. des Lép. v. p. 159 (1852); Walker, Cat. ix. p. 191.

The members of this genus are cosmopolitan, and they are found in most parts of the globe. Walker in his Catalogues enumerates twenty-five species, and many others have since been described. *Prodenia* is represented in Central America by four species, and we have received many examples of three of them.

1. Prodenia commelinæ.

Phalæna commelinæ, Abbot & Smith, Lep. Ins. Georgia, ii. p. 189, t. 95 [1].
Trigonophora commelinæ, Hübn. Verz. bek. Schmett. p. 217.
Prodenia commelinæ, Guén. Sp. gén. des Lép. v. p. 162 [2]; Walk. Cat. ix. p. 192 [3], and xi. p. 722 [4]; Druce, P. Z. S. 1884, p. 322 [5].

Hab. North America, Georgia [1 3], Virginia [1].—Mexico, Presidio (*Forrer*), San Blas (*J. J. Walker*), Jalapa (*Höge*), Coatepec (*Brooks*), Valladolid in Yucatan (*Gaumer*); Guatemala, Coatepeque, Cerro Zunil, Pantaleon 1700 feet, Senahu (*Champion*); Honduras [3]; Nicaragua, Chontales (*Janson*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Bugaba 800 to 1500 feet, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).—Colombia; Ecuador; South-east Brazil; Antilles [3], Jamaica [3], San Domingo [4], Saint Thomas [2], Dominica [5], Trinidad.

This wide-ranging species varies much in size and colour, some specimens being much darker and more heavily marked than others. Walker in his Catalogue [3] also gives Samoa (or Navigators' Islands) as a locality, but I very much doubt the correctness of this. All the examples I have seen are from North, Central, or South America, or the West Indian Islands. The larva and pupa are well-figured by Abbot and Smith; they state that the former feeds on the wild comfrey (*Commelina communis*), hickory, ground-peas, &c.

2. Prodenia androgea.

Phalæna Noctua androgea, Cram. Pap. Exot. iv. p. 42, t. 310. f. D [1].

Prodenia androgea, Guén. Sp. gén. des Lép. v. p. 161 [2]; Walk. Cat. ix. p. 195 [3].

Hab. Panama, Bugaba 1000 feet (*Champion*), Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—Guiana, Surinam [1 2 3], Cayenne [2].

The only specimen of this species obtained by Mr. Champion in Central America agrees very well with Cramer's figure.

3. Prodenia signifera.

Prodenia signifera, Walk. Cat. ix. p. 193 [1], and xi. p. 722 [2].

? *Prodenia plagiata,* Walk. Cat. ix. p. 194 [3].

Hab. North America, Georgia [1].—Mexico, State of Durango (*Forrer*), Jalapa (*Höge*), Teapa in Tabasco (*H. H. Smith*, Feb. 1888); Guatemala, Balheu, San Gerónimo (*Champion*); Costa Rica, Punta Arenas (*J. J. Walker*); Panama, Bugaba 800 to 1500 feet, Volcan de Chiriqui (*Champion*).—Venezuela [1]; South-east Brazil; Antilles, San Domingo [2].

This small species is found over a very extended range of country. *P. plagiata*, Walk., from Jamaica [3], is very probably a synonym of *P. signifera*.

4. Prodenia variolosa.

Prodenia variolosa, Walk. Cat. xi. p. 722 [1].

Hab. Mexico, Presidio (*Forrer*), Cordova (*Rümeli*), Mexico city (*Höge*), Jalapa (*F. D. G.*), Coatepec (*Brooks*); Guatemala, Lanquin and Balheu in Vera Paz (*Champion*).—Antilles, San Domingo [1].

A well-marked and very distinct species. We have received numerous examples

from Mexico, but two only from Guatemala. These agree perfectly with those from San Domingo in the British Museum.

DARGIDA.

Dargida, Walker, Cat. ix. p. 201 (1856).

Walker founded this genus upon a single species from Venezuela and Brazil. This and six other species, five of which are here described as new, inhabit our region.

1. **Dargida grammivora.**

Dargida grammivora, Walk. Cat. ix. p. 202 [1].

Hab. Mexico, Milpas in Durango 5900 feet (*Forrer*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—Venezuela [1]; Brazil, Rio Grande [1], Rio Janeiro.

Our specimen from Costa Rica agrees well with Walker's type in the National Collection. Those from Northern Mexico are a little darker in colour, but they do not otherwise differ from examples from Rio Janeiro contained in my own collection. *D. crucifera*, Felder, from Luzon, very closely resembles this species.

2. **Dargida singularis.**

Dargida singularis, Butl. Trans. Ent. Soc. Lond. 1879, p. 22 [1].

Hab. Mexico, Coatepec (*Brooks*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Amazons, Villa Nova de Parentins [1].

The single worn specimen we have received from Mexico differs from those from more southern localities in being browner in colour and in having the markings fainter; it is possibly a distinct species, but without seeing further material we hesitate to separate it. *D. singularis* very closely resembles Felder's figure of *Phlegetonia* (?) *bellona* (Reise der Novara, Lep. t. 112. fig. 1), an insect inhabiting Guiana.

3. **Dargida niphanda.** (Tab. XXVI. fig. 14.)

Primaries pinkish-brown, crossed from the costal margin to the inner margin by two waved black lines, with a small green-coloured streak near the base, a short black band along the inner margin close to the base (but not touching it), two green spots at the end of the cell, on the inner side of which is a dark brown streak extending to the costal margin, a faint waved submarginal line running from the apex to the anal angle, and a round dark brown spot on the inner side of this line at the anal angle, the outer margin edged with lead-colour, the fringe light and dark brown; secondaries white, broadly bordered with brown: head and front of the thorax pinkish-brown, the rest of the thorax and the abdomen pale brown, the anus yellowish; antennæ, palpi, and legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. Panama, Volcan de Chiriqui 4000 feet (*Champion*).

This handsome species is most nearly allied to *D. singularis*, Butler, but it is very differently marked on the primaries. We have received only one specimen.

4. **Dargida amphion,** sp. n. (Tab. XXVI. fig. 15.)

Primaries dark brown, shaded with purple, the markings resembling those of *D. singularis* but all much paler in colour and more distinct, a pale green spot close to the base on the inner margin, and a marginal row

of minute black dots extending from the apex to the anal angle; secondaries almost uniformly dark silky-brown, slightly paler at the base, the fringe brown and yellowish-white: head, collar, and thorax dark brown, the abdomen paler brown; antennæ and legs reddish-brown. Expanse $1\frac{7}{10}$ inch.

Hab. MEXICO, Coatepec (*Brooks*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

This species may be readily distinguished from *D. singularis*, Butler, by the entirely brown secondaries, and also by the lighter-coloured and more distinctly marked primaries. The Guatemalan specimen is figured.

5. **Dargida sarepta,** sp. n. (Tab. XXVI. fig. 16.)

Primaries dark brown, crossed by three indistinct black lines, with a white line at the end of the cell, a small white spot on the inner margin close to the base, a narrow whitish waved line extending from the apex, where it is forked, to about the middle of the inner margin, and on the outer side of the whitish line a pale brown line beyond which is a row of indistinct brown spots; secondaries glossy brown, slightly paler in the middle and at the base: head and thorax dark brown, the abdomen of the same colour as the secondaries; legs and antennæ brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

Two specimens of this distinct species are contained in the collection of Dr. Staudinger. *D. sarepta* is allied to the preceding species, but may be at once distinguished from it by the pale lines on the primaries; in one specimen these lines are not quite so white in colour as in the other.

6. **Dargida porphyra,** sp. n. (Tab. XXVI. fig. 17.)

Primaries dark brown shaded with reddish-brown, with a white spot at the end of the cell, beyond which is a row of minute white dots crossing the wing from near the apex on the costal margin to the inner margin, a pinkish-brown stripe near the apex, commencing on the costal margin above the white spot and extending towards the outer margin, a wide pinkish-brown streak about the middle of the inner margin and a bluish-white dot between it and the base, and a submarginal row of minute black dots, the fringe light and dark brown; secondaries uniformly dark brown, palest at the base, the fringe light brown: head and thorax dark brown; abdomen brown, becoming lighter near the anus; antennæ, palpi, and legs brown. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe*).

A beautiful species and quite distinct from all others of this genus. Our figure is taken from the Guatemalan specimen.

7. **Dargida luma,** sp. n. (Tab. XXVI. fig. 18.)

Primaries reddish-brown shaded with darker brown, the costal margin streaked with dark brown, an indistinct dark brown mark in the middle of the wing, a minute bluish-white spot on the inner margin close to the base, and a marginal row of small black dots extending from the apex to the anal angle, the fringe brown; secondaries uniform dark brown, with the fringe reddish-brown: head, thorax, and abdomen reddish-brown; antennæ and legs brown. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo, Volcan de Atitlan 3500 feet (*Champion*).

Two specimens only of this dull-coloured insect were obtained.

Group **EPISEMIDES.**

HELIOPHOBUS.

Heliophobus, Boisduval, Europ. Lep. Ind. Meth. p. 69 (1829); Walker, Cat. ix. p. 203.

The species placed in *Heliophobus* by Guénée and Walker are all European except one, the latter being from North America.

The single representative of the genus received by us from Central America closely resembles the European *H. hispida* in form, but differs from it entirely in colour.

1. **Heliophobus hipparis,** sp. n. (Tab. XXVI. fig. 19.)

Primaries pale greyish-mouse-colour, with a dark-coloured spot at the end of the cell, two faint spots nearer the base, a dark brown spot close to the base on the inner margin, a waved narrow whitish line crossing the wing beyond the middle from the costal margin to the inner margin, and a submarginal dark brown line extending from near the apex to the anal angle, the fringe light and dark mouse-colour; secondaries uniform pale greyish-brown, the fringe considerably paler in colour; the underside uniform greyish-white, with a very distinct dark brown spot at the end of the cell on both wings: head, thorax, abdomen, legs, and antennæ pale mouse-colour; the antennæ deeply pectinated in the male, simple in the female. Expanse $1\frac{3}{10}$ inch.

Hab. Mexico, Milpas in Durango 5900 feet (*Forrer*), Mexico city (*F. D. G., Höge*), Jalapa (*Höge*).

This species varies very considerably in size. The specimens from the city of Mexico are much larger and more darkly marked than those from Durango, but in other respects they are similar.

Group **APAMIDES.**

MAMESTRA.

Mamestra, Ochsenheimer, Schmett. Europ. iv. p. 76 (1816).

The species of this genus are very widely distributed over all parts of the globe. Four are known to us from Central America.

1. **Mamestra configurata.** (Tab. XXVI. fig. 20.)

Mamestra configurata, Walk. Cat. ix. p. 234[1].

Hab. Mexico[1], near the city (*Höge*).

Our specimen agrees perfectly with Walker's type in the British Museum.

2. **Mamestra inducta.**

Mamestra inducta, Walk. Cat. ix. p. 236[1].

Hab. Mexico, Patzcuaro, Mexico city (*F. D. G.*), Jalapa (*Höge, M. Trujillo*); Guatemala, Totonicapam 8500 to 10,500 feet (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—Venezuela[1].

This insect is common in Mexico, but it appears to become very scarce in Guatemala and further south. It closely resembles *M. brassicæ*, an abundant species in Europe, and also found in Japan.

3. **Mamestra dotata,** sp. n. (Tab. XXVI. fig. 21.)

Primaries reddish-fawn-colour, crossed from the costal margin to the inner margin by three very indistinct dark brown lines (the second the widest and placed about the middle), with a whitish spot at the end of the cell and a submarginal row of very minute white dots extending from the apex to the anal angle, the dot close to the anal angle the largest and very distinct; secondaries of the male semihyaline, whitish, shaded with brown on the costal margin and at the apex, those of the female very much darker in colour; the underside of both wings very pale in colour and without markings: head, thorax, and abdomen reddish-fawn-colour, the latter becoming paler near the anus, the legs and antennæ pale brown. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*, *Ribbe*).

This species varies slightly, some specimens being more strongly-marked than others. *M. dotata* may be very readily distinguished from any other species of the genus by the white dot at the anal angle of the primaries.

4. **Mamestra hipparion,** sp. n. (Tab. XXVI. fig. 24.)

Primaries pale glossy-brown with a reddish tinge in certain lights, a dark central streak extending from the base almost to the outer margin (which it does not quite reach), a pale brown spot at the end of the cell, several minute dark markings along the costal margin, and a series of very minute indistinct dots along the outer margin; secondaries pale glossy greyish-brown, more obscure in the female, darkest on the outer margin from the apex to the anal angle; the underside of both wings considerably paler than the upperside: head, thorax, and abdomen of a darker brown than the primaries, the anus pale brown; antennæ and legs brown. Expanse $1\frac{3}{4}$ inch.

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*).

This is a very dull-coloured insect, and it somewhat resembles *Perinœnia lignosa*, Butler, from Japan.

APAMEA.

Apamea, Ochsenheimer, Schmett. Europ. iv. p. 75 (1816); Walker, Cat. ix. p. 243.

Two species only of this genus are known to us from Central America.

1. **Apamea iaspis.**

Apamea iaspis, Guén. Sp. gén. des Lép. v. p. 209[1]; Walk. Cat. ix. p. 250[2].

Hab. NORTH AMERICA, New York[1 2].—MEXICO, Jalapa (*Schaus*); GUATEMALA, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

We have received five specimens only of this species.

2. **Apamea intermittens.**

Apamea intermittens, Walk. Cat. xv. p. 1686[1].

Hab. MEXICO, Las Vigas (*Schaus*); GUATEMALA, Senahu (*Champion*).—ANTILLES, San Domingo[1].

Our Guatemalan specimen agrees well with Walker's type in the National Collection.

MIANA.

Miana, Stephens, Ill. Brit. Ent., Haust. iii. p. 11 (1829).

1. **Miana pulchra**, sp. n. (Tab. XXVI. fig. 22.)

Primaries dark greenish-brown shaded with paler brown, with a large pinkish-white spot at the end of the cell, on the inner side of which is a long dark brown streak, the latter having a very minute white dot on the end nearest to the base, two fine black lines crossing the wing from the costal margin to the inner margin, and a pale greenish-brown submarginal line extending from the costa to the anal angle, the fringe black and brown; secondaries uniform blackish-brown, palest at the base, the fringe greyish; the underside of both wings brownish-black, the base of the secondaries whitish: head and thorax brown, shaded with greenish at the base, the abdomen and antennæ brown. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Cubilguitz in Vera Paz, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A Chiriqui specimen of this pretty little species is figured.

2. **Miana zonella**, sp. n. (Tab. XXVI. fig. 23.)

Primaries greyish, with a wide dark brown **V**-shaped mark enclosing a large greyish-white spot at the end of the cell, an indistinct brown band close to the base, a grey-white submarginal band extending from the apex to the inner margin near the anal angle, and a series of minute black dots along the outer margin; secondaries uniformly pale greyish-brown, palest near the base; the underside of both wings pale brown: head and thorax greyish-white, the abdomen pale brown. Expanse 1 inch.

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Rogers obtained a good many specimens of this insect, but we have not received it from any other locality.

CELÆNA.

Celæna, Stephens, Ill. Brit. Ent., Haust. ii. p. 15 (1829); Guénée, Sp. gén. des Lép. v. p. 219 (1852); Walker, Cat. x. p. 259.

This genus is numerous in species and is very widely distributed; seven are known to us from Central America, and six of these are here described as new.

1. **Celæna rubens**, sp. n. (Tab. XXVI. fig. 25.)

Primaries reddish-brown shaded with darker and lighter brown, with a yellowish-brown round spot close to the base on the inner margin, a dark brown mark in the middle of the wing below the cell, a triangularly-shaped brown spot at the end of the cell, and beyond this a wide fawn-coloured band (darker on its outer margin) crossing the wing from the costal margin near the apex to the inner margin, the outer margin of the band edged with a pale waved line, the marginal line pale brown, the fringe light and dark brown; secondaries very pale brownish-white, the outer margin edged with a brown line: head, thorax, abdomen, antennæ, and legs brown. Expanse 1 inch.

Hab. MEXICO, near the city (*F. D. G.*, *Höge*), Jalapa (*M. Trujillo*, *Höge*).

This species varies slightly, some of the specimens having the markings more distinct than others.

2. **Celæna perta,** sp. n. (Tab. XXVI. fig. 26.)

Primaries reddish-brown shaded with darker brown, with two waved greyish lines crossing the wing from the costal margin to the inner margin, a large oval-shaped white spot at the end of the cell, a smaller greyish spot in the cell close to the base, and a waved submarginal greyish line, ending in a white dot, extending from the apex to the anal angle; secondaries greyish-brown, palest near the base; the underside very pale shining brown with a rosy tinge: head and front of the thorax yellowish-brown, the rest of the thorax and the upperside of the abdomen dark brown, the underside of the latter considerably paler. Expanse $1\frac{1}{10}$ inch.

Hab. Mexico, Las Vigas (*Höge*).

One specimen only of this pretty little moth has been received. *C. perta* is allied to the preceding species, but is quite distinct from it.

3. **Celæna hamara,** sp. n. (Tab. XXVI. fig. 27.)

Primaries pale grey, with a dark brown spot close to the base on the inner margin, a wide brown band crossing the wing from the costal margin (where it is much the widest) to the inner margin, and a white spot edged with black at the end of the cell, the outer margin brown with a row of very minute marginal dots, the fringe brown; secondaries white, dusky at the apex and slightly so along the outer margin; the underside of both wings uniformly greyish: head and front of the thorax greyish-brown, the rest of the thorax and the abdomen darker brown; antennæ and legs brown. Expanse $1\frac{1}{4}$ inch.

Hab. Mexico, Coatepec (*Brooks*).

One specimen. This insect resembles grey examples of the European *Miana strigilis* (Linn.).

4. **Celæna oriza,** sp. n. (Tab. XXVI. fig. 28.)

Primaries dark brown, palest along the costal and outer margins, with a pale greyish line crossing the wing beyond the middle from the costal margin to the inner margin, an elongate white streak at the end of the cell, and two finer white lines close to the base, the fringe brown; secondaries white, slightly dusky at the apex, the fringe white; the underside of both wings whitish, slightly shaded with pinkish-brown: head and the front of the thorax pale brown, the collar greyish, the rest of the thorax and the abdomen dark brown; antennæ and legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. Mexico, Coatepec (*Brooks*).

Allied to *C. hamara.* One specimen.

5. **Celæna esopis,** sp. n. (Tab. XXVII. fig. 1.)

Primaries dark reddish-brown, with a pale brownish-white spot at the end of the cell, below which is a broad streak of dark brown, and a pale, very indistinct band crossing the wing from near the apex to the inner margin, beyond which close to the anal angle is a greyish patch extending towards the apex, the fringe pale and dark brown; secondaries uniform dark brown, slightly paler at the base, the fringe pale brown; the underside of both wings dark brown, with a central darker brown line crossing the middle of each wing: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse $1\frac{1}{10}$ inch.

Hab. Guatemala, Totonicapam 8500 to 10,500 feet (*Champion*).

A dull-coloured species. One specimen only.

6. **Celæna ——?**

Hab. Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

One specimen, in very poor condition. This seems to be allied to *Celæna esopis*, but of this we cannot be certain, the primaries being so much rubbed.

7. **Celæna minuta,** sp. n. (Tab. XXVII. fig. 2.)

Primaries dark reddish-brown, the outer margin from the apex to the anal angle broadly bordered with pale pinkish-brown, a black spot at the end of the cell, two minute black lines crossing the wing from the costal margin to the inner margin, and several pale pinkish-brown spots close to the base; secondaries pale brown, paler at the base, the fringe fawn-colour: head, front of the thorax, and tegulæ pinkish-white, the base of the thorax and the abdomen dark brown, the anal tuft fawn-colour; antennæ and legs dark brown. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

A beautiful little species, of which only a single specimen has been received. *C. minuta* is very distinct from all the species of *Celæna* we have seen, and is one of the smallest known members of the genus.

PERIGEA.

Perigea, Guénée, Sp. gén. des Lép. v. p. 225 (1852); Walker, Cat. x. p. 270.
Condica, Walker, Cat. ix. p. 239.

This genus has a very wide range, and is represented in most parts of the globe. The numerous species referred to it by authors are mostly of a very dull colour; no less than thirteen are known to me from Central America, three of which are here described as new.

1. **Perigea infelix.**

Perigea infelix, Guén. Sp. gén. des Lép. v. p. 229 [1]; Walk. Cat. x. p. 271 [2].

Hab. NORTH AMERICA, Florida [1 2].—GUATEMALA, Cerro Zunil 4000 to 5000 feet, Pantaleon 1700 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Our example from Pantaleon is considerably darker in colour than any of those we have seen from other localities, and it also has the hind wings whiter at the base; but the markings agree well with those of the other specimens before me.

2. **Perigea cupentia.**

Phalæna cupentia, Cram. Pap. Exot. iii. p. 103, t. 252. f. E [1].
Cœnipeta cupentia, Hübn. Verz. bek. Schmett. p. 260.
Bœcula (?) *cupentia,* Walk. Cat. ix. p. 148 [2].

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA, Surinam [1 2]; BRAZIL.

Our Panama specimens agree well with Cramer's figure and also with others from Brazil in my own collection. Examples of this species have been forwarded to us from Dr. Staudinger under the name of *Agrotis mixta.*

3. **Perigea palpalis.**

Condica palpalis, Walk. Cat. ix. p. 240, & xv. p. 1686 [1].
Hadena confederata, Grote, Bull. Buff. Soc. ii. p. 143 [2]; Canad. Entom. xii. p. 264 [3].

Hab. NORTH AMERICA, Staten Island [3], Louisiana [2], New Orleans [2], Texas [2].—PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*, *Ribbe*).—ANTILLES, San Domingo [1], Jamaica [3].

This species is very closely allied to *P. cupentia*, from which it chiefly differs in its much redder colour and more distinct grey patch at the apex of the primaries. We have received seven fine specimens from our region, and they do not show any sign of variation.

4. **Perigea epopea.**

Phalæna Noctua epopea, Cram. Pap. Exot. iii. p. 144, t. 272. ff. G, H [1].
Agrotis (?) *epopea*, Walk. Cat. x. p. 338 [2].

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA, Surinam [1 2].

Our Panama specimens are paler and whiter in colour than Cramer's figure G, but in other respects they agree with it.

5. **Perigea hippia,** sp. n. (Tab. XXVII. fig. 3.)

Primaries greyish-white, with brown markings along the costal margin, a brown patch near the base extending from the costal margin to near the inner margin (but not reaching it), beyond which at the end of the cell is a wide brown streak, and a large reddish-brown patch bordered with greyish scales on the outer margin, the fringe dark brown; secondaries pale greyish-brown, darkest near the apex and outer margin, the fringe greyish-white; the underside pale brown with a reddish tinge: head and front of the thorax reddish-brown, the rest of the thorax and the basal part of the abdomen silvery-white, the other part of the abdomen yellowish-white; antennæ and palpi dark brown; legs greyish-brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

One specimen. *P. hippia* is allied to *P. epopea*, Cram., of which it is just possible it may be an extreme variety; but the markings are so entirely different in colour that it seems advisable to name the Chiriqui insect.

6. **Perigea abstemia.**

Perigea abstemia, Guén. Sp. gén. des Lép. v. p. 231 [1]; Walk. Cat. x. p. 272 [2].

Hab. MEXICO [1 2].

This species is unknown to us.

7. **Perigea subaurea.**

Perigea subaurea, Guén. Sp. gén. des Lép. v. p. 227 [1]; Walk. Cat. x. p. 272 [2].
Celæna (?) *plagiata*, Walk. Cat. x. p. 268 [3].
Celæna inclinata, Walk. Cat. xi. p. 732 [4].
Perigea mobilis, Walk. Cat. x. p. 277 [5].
Perigea subaurata, Walk. Cat. xxxii. p. 681 [6].

Hab. MEXICO, Coatepec (*Brooks*), Teapa in Tabasco (*H. H. Smith*, February 1888);

British Honduras, Belize (*Blancaneaux*); Honduras [6]; Panama, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).—Antilles, Guadaloupe [1 2], San Domingo [4 5]; Brazil [1 2].

This most variable insect is found over a very extended range of country, and with a large series of specimens before me I am quite unable to separate the specimens named by Walker as distinct species. In no locality do they appear constant. Our examples vary from light orange-brown to dark mouse-colour; in some the white discal spot is almost obsolete and in others it is much larger. Specimens from South-east Brazil in my own collection are more brightly-coloured than any from Central America. *P. subaurea* may be synonymous with *P. hylea*, Cram. (Pap. Exot. iv. p. 48, t. 312. f. E), from Surinam; but the figure of the latter is so bad that without specimens from that locality it is impossible to decide with certainty. The habitat of *Celæna plagiata* is not stated by Walker [3].

8. **Perigea albolabes.**

Perigea albolabes, Grote, Canad. Ent. xii. p. 216 [1]; List of North-American Moths, p. 28 (1882).

Hab. North America, Arizona [1].—Guatemala, Volcan de Atitlan 2500 to 3500 feet (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Colombia.

This species is closely allied to *P. stelligera*, Guén., from South-east Brazil.

9. **Perigea sutor.**

Perigea sutor, Guén. Sp. gén. des Lép. v. p. 231 [1]; Walk. Cat. x. p. 274 [2].

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*, February 1888); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Brazil [1 2], Rio Janeiro.

Central-American specimens agree perfectly with those from Rio Janeiro in my own collection.

10. **Perigea fidelia,** sp. n. (Tab. XXVII. fig. 4.)

Primaries dark brown, mottled with pale brown close to the base and along the inner margin, and with several white dots at the end of the cell, beyond which is a row of indistinct black spots crossing the wing from the costal margin to the inner margin; secondaries dark blackish-brown, the fringe pale brown: head, thorax, and abdomen dark brown; antennæ, palpi, and legs brown. Expanse, ♂ 1¼ inch; ♀ 1½ inch.

Hab. Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species is allied to *P. sutor*, Guén., but it is altogether a smaller insect. The female is larger than the male, and has the white discal spots more distinct.

11. **Perigea berinda,** sp. n. (Tab. XXVII. fig. 5.)

Primaries pale brown, mottled with darker brown, with a round indistinct discal spot, a dark brown mark below this and nearer the base, another close to the anal angle, and a row of very minute white dots crossing the wing beyond the middle from the costal margin to the inner margin, the fringe dark brown; secondaries blackish-brown, the fringe much paler: head, thorax, and antennæ pale brown; the abdomen greyish-brown. Expanse 1½ inch.

Hab. Mexico, State of Durango (*Forrer*), Jalapa (*Höge*, *M. Trujillo*), Teapa in Tabasco (*H. H. Smith*, March 1888); Guatemala, San Isidro 1600 feet, Cerro Zunil

4000 to 5000 feet (*Champion*); Panama, Bugaba, Volcan de Chiriqui 2000 to 4000 feet (*Champion, Ribbe*).

P. berinda varies considerably in colour, some specimens being of a much darker brown tint than others. A closely-allied species from South-east Brazil is contained in my own collection.

12. **Perigea paupera.**

Perigea paupera, Walk. Cat. xv. p. 1693 [1].

Hab. Mexico, Northern Sonora (*Morrison*).—Venezuela [1].

The late Mr. Morrison sent us a large series of specimens of this insect from Sonora; these agree well with Walker's type in the National Collection.

13. **Perigea fabrefacta.**

Segetia fabrefacta, Morrison, Proc. Bost. Soc. Nat. Hist. xvii. p. 146 [1].

Perigea fabrefacta, Grote, Bull. Brooklyn Soc. iii. p. 37; List of North-American Moths, p. 28 (1882).

Hab. North America [1].—Mexico, Presidio (*Forrer*), Las Vigas, Jalapa (*Höge, M. Trujillo*), Coatepec (*Brooks*), Teapa in Tabasco (*H. H. Smith*, March 1888); Guatemala, El Tumbador, San Isidro 1600 feet, San Gerónimo, Cahabon (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species is very common and widely distributed in our country.

Subfam. *CARADRININÆ.*

MERISTIS.

Meristis, Hübner, Verz. bek. Schmett. p. 239 (1816); Walker, Cat. x. p. 279.

This genus is represented in Central America by a species very similar to the European *Meristis* (*Grammesia*) *trilinea.*

1. **Meristis fea,** sp. n. (Tab. XXVII. fig. 6.)

Primaries pale greyish-brown, crossed from the costal margin to the inner margin by four narrow dark waved lines, the submarginal line being very indistinct, and with a yellowish-brown spot at the end of the cell; secondaries uniform pale greyish-brown, the fringe brown (that of the primaries darker); the underside of both wings uniform pale brown and each with a rather wide indistinct submarginal dusky line extending from the costal margin to the inner margin: head and thorax greyish-brown, the abdomen slightly darker, the anus yellowish; antennæ and legs pale brown. Expanse $1\frac{6}{10}$ inch.

Hab. Mexico, Jalapa (*Höge*); Guatemala, Totonicapam 8500 to 10,500 feet, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo (*Champion*).

Numerous examples of this insect were obtained by Mr. Champion in Guatemala; two only by Herr Höge at Jalapa. The description and figure are taken from one of the Mexican specimens.

MONODES.

Monodes, Guénée, Sp. gén. des Lép. v. p. 240 (1852); Walker, Cat. x. p. 284.

Two species of this genus are known to us from Central America, both of which are here described as new.

1. **Monodes citrina**, sp. n. (Tab. XXVII. fig. 7.)

Primaries fawn-colour, yellow at the base and along the costal margin to near the apex, with two very indistinct broken bands crossing the wing about the middle, the bands extending from the costal margin to the inner margin, the fringe dark fawn-colour; secondaries white, slightly hyaline, the fringe yellowish; the underside of the primaries pale fawn-colour, shaded with yellow along the costal margin, that of the secondaries white: head and thorax yellowish-brown; abdomen above white shaded with pale fawn-colour, beneath almost white; antennæ dark brown; legs whitish. Expanse 1 inch.

Hab. GUATEMALA, San Gerónimo 3000 feet (*Champion*).

Only two specimens of this little species were obtained; it seems to be allied to the type of the genus, *M. nucicolora*, Guén., from East Florida.

2. **Monodes monyma**, sp. n. (Tab. XXVII. fig. 8.)

Primaries pale yellowish-fawn-colour, with a dark brown patch on the outer margin between the apex and the anal angle and a very minute black dot at the end of the cell, the fringe dark brown; secondaries white, slightly hyaline, the apex shaded with brown, the fringe yellowish-white: head, thorax, and abdomen pale fawn-colour, the antennæ and legs brown. Expanse 1 inch.

Hab. MEXICO, Presidio in Durango (*Forrer*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A pretty little species allied to *M. citrina*. Our figure is taken from a Chiriqui specimen.

CARADRINA.

Caradrina, Hübner, Verz. bek. Schmett. p. 230 (1816); Ochsenheimer, Schmett. Eur. iv. p. 80; Guénée, Sp. gén. des Lép. v. p. 141; Walker, Cat. x. p. 284.

One species only of this genus has been, as yet, received by us from our region.

1. **Caradrina flavimaculata.**

Caradrina flavimaculata, Harvey, Canad. Ent. viii. p. 54[1]; Grote, List of North-American Moths, p. 30 (1882).

Hab. NORTH AMERICA, Oregon and California[1].—MEXICO, Northern Sonora (*Morrison*).

One specimen from Sonora, agreeing with those in the Grote collection, now in the National Museum.

Subfam. *NOCTUINÆ.*

AGROTIS.

Agrotis, Ochsenheimer, Schmett. Europ. iv. p. 66 (1816); Walker, Cat. x. p. 303.

Guénée and Walker place a large number of species in this genus; these are widely distributed all over the globe.

1. Agrotis ypsilon.

Phalæna ypsilon, Rottemb. Der Naturf. ix. p. 141.

Agrotis ypsilon, Staud. Cat. Lep. Europ. p. 88. no. 1229.

Phalæna Noctua subfusa, Gmel. Syst. Nat. i. 5, p. 2541.

Phalæna Noctua suffusa, Borkh. Naturg. Europ. Schmett. iv. p. 549.

Noctua suffusa, Wien. Verz. p. 80 (1776), edit. 2, i. p. 257 (1801); Fabr. Mant. Ins. ii. p. 157; Ent. Syst. iii. 2, p. 71; Hübn. Samml. Europ. Schmett., Noct. t. 28. f. 134; Haw. Lep. Brit. p. 217; Godart, Hist. Nat. Lép. Fr. v. p. 255, t. 69. ff. 1, 2.

Peridroma suffusa, Hübn. Verz. bek. Schmett. p. 227.

Noctua (Agrotis) suffusa, Meig. Handb. für Schmett. p. 154; Syst. Beschr. iii. p. 87, t. 94. f. 3.

Agrotis suffusa, Treitschke, Schmett. Eur. v. 1, p. 152; Steph. Ill. British Ent., Haust. ii. p. 116; Boisd. Gen. et Ind. Meth. Europ. Lep. p. 109; Guén. Sp. gén. des Lép. p. 268; Walk. Cat. x. p. 309 [1]; Grote, List of North-American Moths, p. 25 (1882); Butl. Trans. Ent. Soc. Lond. 1882, p. 126 [2].

Bombyx spinula, Esp. Europ. Schmett. iii. t. 63. ff. 6, 7.

Phalæna Bombyx idonea, Cram. Pap. Exot. iii. p. 150, t. 275. f. H; iv. p. 43.

Noctua robusta, Blanch. in Gay's Hist. fisica y polit. de Chile, Zool. vii. p. 75, Atlas, t. 6. f. 9 [3].

Agrotis bipars, Walk. Cat. x. p. 334 [4]; Butl. Trans. Ent. Soc. Lond. 1882, p. 127 [5].

Agrotis telifera, Harris, Treatise Ins. New Engl. p. 323 (1842); Treatise on some Insects injurious to Vegetation, Flint's edit. p. 443 (1862).

Hab. North America [1].—Mexico, Milpas in Durango 5900 feet (*Forrer*), Patzcuaro (*F. D. G.*), Jalapa (*Höge*); Guatemala, Capetillo (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*); Panama, Volcan de Chiriqui (*Arcé, in mus. D.*).—Venezuela [1 4]; Guiana; Brazil; Uruguay [1]; Chili [2 3 5].—Europe [1]; India [1]; China [1]; South Africa [1]; Australia [1]; New Zealand [1].

This species is universally distributed; it varies very little in any locality. I can see no reason for treating *A. bipars* as distinct from *A. ypsilon.*

2. Agrotis saucia.

Noctua saucia, Hübn. Samml. Europ. Schmett., Noct. t. 81. f. 378; Godart, Hist. Nat. Lép. Fr. v. p. 260, t. 69. f. 4.

Peridroma saucia, Hübner, Verz. bek. Schmett. p. 227.

Agrotis saucia, Treitschke, Schmett. Europ. v. 1, p. 149; Guén. Sp. gén. des Lép. v. p. 271 [1]; Walk. Cat. x. p. 311 [2]; Butl. Trans. Ent. Soc. Lond. 1882, p. 126 [3]; Staud. Cat. Lep. Europ. p. 88. no. 1226 [4]; Grote, List of North-American Moths, p. 26 (1882).

Noctua æqua, Hübn. Samml. Europ. Schmett. t. 171. f. 812; Godart, Hist. Nat. Lép. Fr. v. p. 258, t. 69. f. 3.

Agrotis æqua, Steph. Ill. Brit. Ent., Haust. ii. p. 115.

Agrotis ambrosioides, Walk. Cat. xi. p. 738 [5]; Butl. Trans. Ent. Soc. Lond. 1882, p. 126.

Spælotis stictica, Blanch. in Gay's Hist. fisica y polit. de Chile, Zool. vii. p. 73, Atlas, t. 6. fig. 8 [6].

Agrotis impacta, Walk. Cat. x. p. 337 [1]; Butl. Trans. Ent. Soc. Lond. 1882, p. 126.

Agrotis inermis, Harris, Treatise Ins. New Engl. p. 323 (1842); Treatise on some Insects injurious to Vegetation, Flint's edit. p. 444 (1862); Grote, List of North-American Moths, p. 26 (1882).

Agrotis ortonii, Pack. First Annual Report of the Peabody Acad. of Science, p. 63 (1869); Grote, List of North-American Moths, p. 26.

Noctua margaritosa, Haw. Lep. Brit. p. 218.

Hab. North America.—Mexico, Northern Sonora (*Morrison*), Milpas in Durango 5900 feet (*Forrer*), Jalapa, Mexico city (*Höge*), Cuesta de Misantla (*M. Trujillo*), Coatepec (*Brooks*); Guatemala, Purula (*Champion*); Costa Rica (*van Patten*), Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*); Panama, Volcan de Chiriqui (*Ribbe, mus. Staudinger*).—Colombia [1]; Venezuela [5 7]; Brazil [1], Rio Janeiro [7]; Argentine Republic; Chili [3 6].—Europe [1 4]; Asia Minor [4]; Madeira [2].

This species is common in our country, and varies very considerably in colour. I agree with Mr. Butler in regarding *A. ambrosioides*, Walker, *S. stictica*, Blanch., and *A. impacta*, Walker, as nothing more than colour-varieties of *A. saucia*. Specimens agreeing with the types of these so-called species occur in almost all the localities mentioned, whence we have also received numerous intermediate forms. Mr. Butler remarks [3] that the secondaries of the variety *A. ambrosioides* have the borders and veins dark brown: the Chilian specimens collected by Mr. T. Edmonds are darker in this respect, but others from Mexico with similarly-coloured primaries have the secondaries much paler. Our examples vary greatly in size, those from South-east Brazil and the Argentine Republic, as a rule, being the smallest.

3. Agrotis malefida.

Agrotis malefida, Guénée, Sp. gén. des Lép. v. p. 267 [1]; Walk. Cat. x. p. 328 [2]; Grote, List of North-American Moths, p. 25 (1882).

Agrotis consueta, Walk. Cat. x. p. 334 [3].

Hab. North America [1], East Florida [2].—Mexico, Presidio (*Forrer*), Patzcuaro (*F. D. G.*), Mexico city (*Höge, F. D. G.*), Jalapa (*M. Trujillo*), Coatepec (*Brooks*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—Venezuela [3].

We have received eleven specimens from Central America; these agree well with others from North America in Mr. Grote's collection now in the British Museum. *A. malefida* varies considerably in colour, some specimens having the primaries much greyer than others. *A. consueta*, Walk., is based upon a pale form of the same species.

4. Agrotis penicillum.

Agrotis penicillum, Feld. & Rogenh. Reise der Novara, Lep. iv. t. 109. f. 33, Erkl. der Taf. 109 [1].

Hab. GUATEMALA [1].

Unknown to me.

5. Agrotis anteposita.

Agrotis anteposita, Guén. Sp. gén. des Lép. v. p. 278 [1]; Walk. Cat. x. p. 336 [2].

Agrotis decernens, Walk. Cat. x. p. 333 [3].

Noctua lutescens, Blanch. in Gay's Hist. fisica y polit. de Chile, Zool. vii. p. 76 [4]; Butl. Trans. Ent. Soc. Lond. 1882, p. 128 [5].

Hab. MEXICO, Jalapa (*Höge, M. Trujillo*); HONDURAS (*Dyson* [2]); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA [2]; SOUTH-EAST BRAZIL; URUGUAY, Monte Video [1 2]; CHILI [4 5]; ANTILLES, San Domingo [3].

Though very widely distributed, this species appears to be rare in all the above-mentioned localities.

6. Agrotis obelisca.

Noctua obelisca, Wien. Verz. p. 80 (1776); edit. 2, i. p. 258 (1801); Hübn. Samml. Europ. Schmett. t. 26. f. 123; Godart, Hist. Nat. Lép. Fr. v. p. 214, t. 64. f. 3.

Noctua (*Agrotis*) *obelisca,* Meig. Syst. Beschr. iii. p. 86, t. 92. f. 10.

Agrotis obelisca, Treitschke, Schmett. Europ. v. 1, p. 143; Boisd. Gen. et Ind. Meth. Europ. Lep. p. 110; Guén. Ann. Soc. Ent. Fr. x. p. 240; Sp. gén. des Lép. v. p. 291; Walk. Cat. x. p. 323 [1].

Metaxyja obelisca, Hübn. Verz. bek. Schmett. p. 223.

Noctua obeliscata, Haw. Lep. Brit. p. 222.

? *Agrotis obeliscata,* Steph. Ill. Brit. Ent., Haust. ii. p. 124.

Noctua praticola, Hübn. Samml. Europ. Schmett. t. 123. f. 567.

Phalæna Noctua pratincola, Borkh. Europ. Schmett. iv. p. 553.

Bombyx molothina, Esp. Europ. Schmett. iii. t. 85. f. 1.

Hab. NORTH AMERICA, Nova Scotia [1].—MEXICO, Las Vigas (*Höge*); COSTA RICA, Volcan de Irazu (*Rogers*).—EUROPE [1].

This insect appears to be common in Mexico, but from Costa Rica we have only received one specimen. Central-American examples agree well with European ones.

7. Agrotis c-nigrum.

Phalæna Noctua c-nigrum, Linn. Faun. Suec. p. 316. no. 1193 (1761); Clerck, Icon. Ins. t. i. f. 3; Gmel. Syst. Nat. i. 5, p. 2542.

Noctua c-nigrum, Wien. Verz. p. 77.

Megasema c-nigrum, Hübn. Verz. bek. Schmett. p. 223.

Graphiphora c-nigrum, Steph. Ill. Brit. Ent., Haust. ii. p. 136; Westw. & Humphr. Brit. Moths, i. p. 132, t. 26. ff. 4, 5; Walk. Cat. x. p. 389 [1].

Agrotis c-nigrum, Staud. Cat. Lep. Europ. p. 82; Grote, List of North-American Moths, p. 24 (1882).

Bombyx nun-atrum, Esp. Europ. Schmett. iii. p. 385.

Noctua gothica, var. *singularis*, Esp. Schmett. iii. t. 76. f. 3.

Hab. North America, Nova Scotia [1]; United States [1].—Mexico, Jalapa (*Höge*).—Europe [1].

We have received a single example of this well-known species from Mexico.

8. **Agrotis manethusa**, sp. n. (Tab. XXVII. fig. 9.)

Primaries dark purplish-brown, with the costal margin from the base to near the apex pale fawn-colour, a round spot in the middle of the cell and a lunular-shaped mark at the end of the cell pale reddish-brown bordered with a pale fawn-coloured line, two narrow black lines crossing the wing near the base from the inner edge of the pale costal streak to the inner margin, and a very indistinct row of minute dots crossing beyond the middle from the costal margin above the apex to the inner margin near the anal angle, the marginal line and the fringe reddish-fawn-colour; secondaries brownish-white, darkest at the apex and along the outer margin, the fringe white; the underside of the primaries blackish-brown with the costal margin and the fringe pinkish, that of the secondaries as above: head and thorax dark reddish-brown, the underside blackish; abdomen above yellowish-white, below white with a row of black dots on each side; antennæ and legs black. Expanse $1\frac{3}{4}$ inch.

Hab. Mexico, near the city (*Höge*).

This distinct species is allied to *A. obelisca*, from which it may be at once distinguished by its much darker colour and the paler and wider streak of the costal margin. Two examples.

9. **Agrotis incivis.**

Agrotis incivis, Guén. Sp. gén. des Lép. v. p. 274; Walk. Cat. x. p. 330 [1].

Agrotis infecta, Ochs. Schmett. Europ. iv. p. 67.

Noctua præcox, Hübn. Samml. Europ. Schmett. t. 77. f. 359; Oliv. Encycl. Méth. p. 330; Duponch. Hist. Nat. Lép. Fr. iii. p. 20, t. 73. f. 1 (nec Linn.).

Hapalia infecta, Hübn. Verz. bek. Schmett. p. 220.

Anicla alabamæ, Grote, Bull. Buff. Soc. ii. p. 159 [2]; List of Noct. of Am. north of Mexico, p. 7 (1875)[3].

Agrotis alabamæ, Grote, List of North-American Moths, p. 26 (1882).

Hab. North America, Central Alabama [2], East Florida [1].—Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*, *Ribbe*).—Antilles, San Domingo [1].

This species we are now able to trace southwards to the State of Panama. Some specimens are more spotted than others. According to Grote [3], the name *Anicla alabamæ* is a synonym of *Agrotis incivis*.

10. **Agrotis ignicans.**

Agrotis ignicans, Guén. Sp. gén. des Lép. v. p. 274 [1]; Walk. Cat. x. p. 335 [2].

Agrotis prodenoides, Walk. Cat. x. p. 354 [3].

Hab. Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Venezuela [2]; Brazil [1 2].

The specimen described by Walker [3] under the name of *Agrotis prodenoides* is from

an unknown locality. *A. ignicans* is closely allied to *A. incivis*, and I think it quite possible that upon receipt of more specimens they will prove to be forms of one species.

11. **Agrotis differens.**

Agrotis differens, Walk. Cat. x. p. 336[1].

Hab. MEXICO, Las Vigas (*Höge*).—VENEZUELA [1].

The single example received from Mexico agrees well with Walker's type in the National Collection.

12. **Agrotis auxiliaris.**

Agrotis auxiliaris, Grote, Bull. Buff. Soc. i. p. 96[1]; List of North-American Moths, p. 24 (1882).
Var. *Agrotis agrestis*, Bull. U.S. Geol. Surv. ii. p. 117[2]; Grote, List of North-American Moths, p. 24.
Var. *Agrotis introferens*, Grote, List of North-American Moths, p. 24.

Hab. NORTH AMERICA, Colorado [1 2].—MEXICO, Northern Sonora (*Morrison*).

We have received one specimen of this species from Sonora; it does not differ from those from North America labelled *A. agrestis* in the Grote collection now in the National Museum.

The above synonymy is taken from Grote's Catalogues.

13. **Agrotis oroba**, sp. n. (Tab. XXVII. fig. 10.)

Primaries pale greyish, crossed by three waved black lines, the fringe brownish; secondaries white, with the costal margin and part of the outer margin shaded with brown: head and thorax greyish; abdomen black, the anal tuft yellowish; antennæ and legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*, Aug. 1888).

This species is allied to *A. incivis*, Guén.

14. **Agrotis ornea**, sp. n. (Tab. XXVII. fig. 11.)

Primaries uniform pale fawn-colour, mottled with dark brown along the outer margin from the apex to the anal angle, and with four minute dark brown spots along the costal margin; secondaries blackish-brown, with the fringe white; the underside of both wings uniformly blackish-brown: head and thorax pale fawn-colour, the abdomen darker brown, the antennæ and legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, near the city (*Höge*).

This species is quite distinct from any other *Agrotis* known to us. Two specimens.

15. **Agrotis altes**, sp. n. (Tab. XXVII. fig. 12.)

Primaries pale straw-colour, with a spot on the inner margin near the base and one at the end of the cell dark brown, the outer margin from the apex to the inner margin thickly irrorated with dark brown scales; secondaries hyaline-white, shaded with brown at the apex and also along part of the outer margin; the underside uniform very pale yellowish-white: head, thorax, and abdomen pale straw-colour, the collar black, the antennæ and legs dark brown. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*, Feb. 1888).

One specimen.

16. **Agrotis orophila.**

Brotis orophila, Geyer in Hübner's Zutr. Samml. exot. Schmett. 5, p. 7. ff. 809, 810
Agrotis orophila, Walk. Cat. xi. p. 736[1].

Hab. MEXICO[1], Coatepec (*Brooks*); COSTA RICA, Rio Sucio (*Rogers*).

Our specimens are of a browner colour than Geyer's figures, but in other respects they agree fairly well with them.

17. **Agrotis repleta.**

Agrotis repleta, Walk. Cat. xi. p. 736[1].

Hab. MEXICO (*Sallé*[1]).

Unknown to me.

18. **Agrotis semidolens.** (Tab. XXVII. fig. 13.)

Agrotis semidolens, Walk. Cat. xi. p. 739[1].

Hab. MEXICO, Coatepec (*Brooks*); GUATEMALA, Coban (*Champion*); PANAMA, Bugaba (*Champion*).—COLOMBIA, Bogota[1]; AMAZONS[1].

Our specimens agree with the one in the late Mr. Saunders's collection now in the Oxford Museum, which I believe to be the type. The example from Bogota in the National Collection is the darkest I have seen.

19. **Agrotis splendens,** sp. n. (Tab. XXVII. fig. 15.)

Primaries greyish-green mottled with brown, a large white spot at the apex and several white patches along the inner margin, a round fawn-coloured spot edged with white below the cell, beyond which is a narrow black line, a black dot edged with white close to the base of the wing, and a submarginal row of minute black dots edged with white on the inner side extending from near the apex to the anal angle, the fringe greenish-grey; secondaries dusky hyaline-white, brownish at the apex and round the outer margin, the fringe whitish; the underside of the primaries dark brown, that of the secondaries the same colour as above but crossed by two rows of dark brown spots: head, collar, and the front of the thorax reddish-brown, the rest of the thorax and the tegulæ greyish-brown speckled with green scales; abdomen dark brown, the anus pale fawn-colour; antennæ and legs brown. Expanse 2 inches.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR.

This fine insect was first received by me from Mr. Buckley, who obtained a very large series of specimens at Sarayacu; these are in all respects similar to those from our country. The figure is taken from a Panama specimen.

TIRACOLA.

Tiracola, Moore, P. Z. S. 1881, p. 351; Descr. Ind. Lep. Ins. Coll. Atkinson, p. 117.

This genus is allied to *Agrotis*, but very distinct.

1. **Tiracola plagiata.** (Tab. XXVII. fig. 14.)

Agrotis plagiata, Walk. Cat. xi. p. 740[1].
Tiracola plagiata, Moore, P. Z. S. 1881, p. 352[2]; Descr. Ind. Lep. Ins. Coll. Atkinson, p. 117[3].

Agrotis plagifera, Walk. Cat. xi. p. 741 [4].
Agrotis spectabilis, Walk. Cat. xxxii. p. 704 [5].
Tiracola spectabilis, Moore, P. Z. S. 1881, p. 352 [6].

Hab. MEXICO, Coatepec (*Brooks*), Cuesta de Misantla (*M. Trujillo*).—INDIA, South India and Darjeeling [2 3]; CEYLON [1 2 3 4]; AUSTRALIA [6], Moreton Bay [5].

After careful comparison of the types of these so-called species I am unable to separate them as distinct, or to detect any difference between them and examples from Mexico. The species varies considerably: one of our specimens from Mexico agrees perfectly with one from Ceylon in the National Museum; another Mexican example is almost identical with others from Australia in my own collection.

LYCOPHOTIA.

Lycophotia, Hübner, Verz. bek. Schmett. p. 215 (1816); Walker, Cat. x. p. 355.

Four species were included in this genus by Walker, two from Europe, and two from Tropical South America. One of the latter extends northwards to Mexico; this, as stated by Walker, is doubtfully congeneric with the others.

1. Lycophotia (?) grandimacula.

Agrotis grandimacula, Guén. Sp. gén. des Lép. v. p. 296, t. 5. f. 5 [1]; Walk. Cat. x. p. 357 [2].
Lycophotia (?) *grandimacula*, Walk. Cat. x. p. 357 [3].
Hadena basicarnea, Walk. Cat. xi. p. 587 [4].
? *Calymnia cirrus*, Feld. & Rogenh. Reise der Novara, Lep. t. 109. f. 5, Erkl. der Taf. 109 [5].

Hab. MEXICO, Coatepec (*Brooks*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA [4 5]; ECUADOR; BRAZIL [1 2 3].

Our specimens agree well with Guénée's figure, except as regards the palpi, which appear to be incorrectly drawn. *Calymnia cirrus* is probably the same species, but it has the secondaries whiter and the bands of the primaries more distinct.

DRYOBOTA.

Dryobota, Lederer, Noct. Europ. p. 100 (1857).

In Staudinger's Catalogue of the European Lepidoptera five species are included in this genus; one inhabits Central and South America.

1. Dryobota agnata.

Dryobota agnata, Feld. & Rogenh. Reise der Novara, Lep. t. 109. f. 4, Erkl. der Taf. 109 [1].

Hab. GUATEMALA, Totonicapam 8500 to 10,500 feet, Cerro Zunil 4000 to 5000 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL [1].

Our specimens from Central America are rather darker in colour than Felder and Rogenhofer's figure of *D. agnata*, but they have the markings exactly similar.

Guatemalan examples are the darkest.

Subfam. *ORTHOSIINÆ.*

TÆNIOCAMPA.

Tæniocampa, Guénée, Ann. Soc. Ent. Fr. viii. p. 477 (1839); Sp. gén. des Lép. v. p. 346; Walker, Cat. x. p. 421.

1. **Tæniocampa oviduca.**

Tæniocampa oviduca, Guén. Sp. gén. des Lép. v. p. 357 [1]; Walk. Cat. x. p. 429 [2]; Grote, List of North-American Moths, p. 31 (1882).

Hab. North America [1 2].—Mexico, Las Vigas, Jalapa (*Höge*); Guatemala, San Gerónimo (*Champion*).

The three specimens received from our region agree well with those from North America in the Grote collection now in the National Museum.

2. **Tæniocampa (?) lineata,** sp. n. (Tab. XXVII. fig. 16.)

Primaries reddish-brown, crossed by three narrow greyish lines, the spot at the end of the cell greyish; secondaries creamy-white, shading off to brown in some specimens: head and thorax reddish-brown, the abdomen greyish. Expanse 1½ inch.

Hab. Costa Rica, Volcan de Irazu 6000 feet (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species appears to be very common in Chiriqui; from Costa Rica we have only received one specimen.

ORTHODES.

Orthodes, Guénée, Sp. gén. des Lép. v. p. 371 (1852); Walker, Cat. x. p. 443.

From our country examples of three species of this genus have been received; two of these are very widely distributed.

1. **Orthodes cynica.**

Orthodes cynica, Guén. Sp. gén. des Lép. v. p. 375 [1]; Walk. Cat. x. p. 443 [2]; Grote, List of North-American Moths, p. 31 (1882) [3].

Orthodes nimia, Guén. Sp. gén. des Lép. v. p. 376 [4]; Walk. Cat. x. p. 443 [5].

Orthodes candens, Guén. Sp. gén. des Lép. v. p. 376 [6]; Walk. Cat. x. p. 444 [7].

Hab. North America [3], Nova Scotia [2], New York [1 2 4 5 6 7].—Mexico, Coatepec (*Brooks*); Guatemala, Cerro Zunil 4000 to 5000 feet, Purula, Senahu (*Champion*); Costa Rica, Rio Sucio, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan

de Chiriqui 2000 to 3000 feet (*Champion, Arcé*).—COLOMBIA; ECUADOR; SOUTH-EAST BRAZIL.

This species varies in colour from pale drab to dark reddish-brown: as a rule, specimens from North America are the palest, the most richly coloured being from the State of Panama.

2. **Orthodes lodebar,** sp. n. (Tab. XXVII. figg. 17 ♂, 18 ♀.)

Male. Primaries reddish-brown, darkest along the costal margin to the middle, and the dark colour beyond this extending half over the wing towards the outer margin, with three waved indistinct lines crossing from the costal to the inner margin, a yellowish-brown spot at the end of the cell, and a submarginal waved black line extending from the apex to the inner margin close to the anal angle; secondaries dark brown, with the fringe paler (especially so on the inner margin); the underside yellowish-fawn-colour, the costal and the outer margins of the primaries broadly banded with reddish-brown, the apex of the secondaries slightly shaded with reddish-brown: head and thorax dark reddish-brown, the collar pale yellowish-brown, the abdomen dark brown with the sides and anus reddish-brown, the underside of the thorax, abdomen, and the legs yellowish-fawn-colour; antennæ brown; palpi brown, paler in front. Female marked like the male, but with the spot at the end of the cell very much more distinct and of a pale fawn-colour, and the underside more dusky. Expanse, ♂, 2 inches; ♀, $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, Senahu (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

This species is allied to *O. cynica*, but very differently marked. The Mexican and Guatemalan specimens are rather darker brown than the two from Costa Rica figured.

3. **Orthodes infirma.**

Orthodes infirma, Guén. Sp. gén. des Lép. v. p. 375[1]; Walk. Cat. x. p. 446[2]; Grote, List of North-American Moths, p. 31 (1882)[3].

? *Orthodes curvirena,* Guén. Sp. gén. des Lép. v. p. 374, t. 5. f. 12[4].

Hab. NORTH AMERICA[3].—MEXICO, Coatepec (*Brooks*), Jalapa (*Schaus, Höge*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Senahu (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—BRAZIL[1 2 4], Rio Janeiro (*coll. D.*).

O. infirma and *O. curvirena*, Guén., are probably one and the same species; the black bands on the body of *O. curvirena* shown in the figure are, I think, most likely caused by the abdomen being much pulled out. My specimens from Rio Janeiro are similar to those from Central America.

MESOGONA.

Mesogona, Boisduval, Gen. et Ind. Meth. Europ. Lep. p. 144 (1840); Guénée, Sp. gén. des Lép. v. p. 403; Walker, Cat. x. p. 472.

Walker in his Catalogue includes four species in this genus, two from Europe, one from North America, and one from Mexico; the latter is unknown to me.

1. Mesogona madida.

Mesogona madida, Guén. Sp. gén. des Lép. v. p. 404[1]; Walk. Cat. x. p. 474[2].

Hab. Mexico[1 2].

Subfam. *COSMIINÆ.*

ATETHMIA.

Atethmia, Hübner, Verz. bek. Schmett. p. 238 (1816); Walker, Cat. x. p. 490.
Athetmia, Guénée, Sp. gén. des Lép. vi. p. 12.

The species of this genus have a very wide distribution in Tropical America.

1. Atethmia subusta.

Atethmia subusta, Hübn. Zutr. Samml. exot. Schmett. 2, p. 8. no. 103, ff. 205, 206; Verz. bek. Schmett. p. 238; Walk. Cat. x. p. 490[1].
Athetmia subusta, Guén. Sp. gén. des Lép. vi. p. 13[2].
Athetmia inusta, Guén. Sp. gén. des Lép. vi. p. 12, t. 8. f. 1[3].
Atethmia inusta, Walk. Cat. x. p. 491[4].
Anthophila erecta, Walk. Cat. xii. p. 828[5].
Poaphila congesta, Walk. Cat. xv. p. 1838[6].
Laphygma trilinea, Walk. Cat. xxxii. p. 649[7].

Hab. Mexico, Presidio (*Forrer*), Dos Arroyos 1000 feet, R. Papagaio 1200 feet, and Tierra Colorada in Guerrero 2000 feet, Atoyac in Vera Cruz (*H. H. Smith*), Coatepec (*Brooks*), Cuesta de Misantla (*M. Trujillo*); Guatemala, Cahabon, San Joaquin, San Gerónimo, Zapote (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—Colombia[1 2]; Venezuela[6]; Guiana[3]; Brazil[2 3 4]; Antilles, San Domingo[5 7].

This widely distributed and common Tropical-American insect is very variable in colour; and in some specimens the lines crossing the primaries are very distinct, while in others they are almost obsolete. We are now able to trace the species as far north as Mexico, where it appears to be not uncommon. Walker has described the species three times, and on each occasion he placed it in a different genus. I fail to detect the slightest difference between his types.

Examples were captured by Mr. H. H. Smith in various localities in Mexico, between April and October 1888.

Subfam. *HADENINÆ.*

DIANTHŒCIA.

Dianthœcia, Boisduval, in Silberm. Rev. Ent. ii. p. 246 (1834); Staudinger, Cat. Lep. Europ. p. 92.
Dianthœcia, Guénée, Ann. Soc. Ent. Fr. vii. p. 204 (1838); Walker, Cat. xi. p. 496.

This genus is represented in our country by one species only; others have been described from South America, Europe, South Africa, &c.

1. **Dianthœcia tura,** sp. n. (Tab. XXVII. fig. 19.)

Primaries reddish-brown, crossed from the costal to the inner margin by five narrow whitish lines, the one in the centre of the wing bordered on the outer side with dark brown, and with a white spot at the end of the cell, and a submarginal row of minute dark brown dots, bordered on the inner side with white, extending from the apex to the inner margin close to the anal angle; secondaries glossy reddish-brown, palest at the base, the fringe almost white; the underside pale glossy fawn-colour, the secondaries lighter than the primaries: head, thorax, and abdomen reddish-brown; the antennæ and legs brown. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species is allied to *D. botonga*, Felder, from South Africa.

HECATERA.

Hecatera, Guénée, Sp. gén. des Lép. vi. p. 27 (1852); Walker, Cat. xi. p. 508.

Two American species were included by Guénée in this widely distributed genus; one of these inhabits Central America, whence two others are here described.

1. **Hecatera laudabilis.**

Hecatera laudabilis, Guén. Sp. gén. des Lép. vi. p. 30, t. 8. f. 4[1]; Walk. Cat. xi. p. 511[2].
Mamestra laudabilis, Grote, List of North-American Moths, p. 27 (1882).
Mamestra illaudabilis, Grote, Canad. Ent. vii. p. 27[3].

Hab. NORTH AMERICA[1], Vancouver[3], California[3], East Florida[2].—MEXICO, Jalapa (*Höge*), Cordova (*Rümeli*); GUATEMALA, near the city (*Champion*).

Our specimens agree with those from North America in the British Museum, but they are not so highly coloured as Guénée's figure.

2. **Hecatera hodeva,** sp. n. (Tab. XXVII. fig. 21.)

Primaries dark brown, mottled with greyish scales at the base along the inner and outer margins, the spot at the end of the cell greyish; secondaries white, semihyaline, slightly clouded with brown at the apex and along the outer margin; the underside of both wings greyish-white: head and thorax dark blackish-brown, speckled with grey scales; abdomen dark grey, slightly yellowish at the anus; legs grey; antennæ black. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

This little species is allied to *H. laudabilis*, Guén.; one specimen only has been received.

3. **Hecatera hoshea,** sp. n. (Tab. XXVII. fig. 22.)

Primaries dark grey mottled with dark brown, with a glossy dark brown mark on the middle of the inner margin spreading over the wing towards the costal margin, an indistinct glossy brown band extending from the costal margin near the apex across the wing to the inner margin near the anal angle, and a marginal row of minute black dots; secondaries white, semihyaline, broadly bordered with dark brown: head, thorax, and abdomen dark greyish-brown, the antennæ black, the legs greyish. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen of this distinct species has been kindly sent to us by Dr. Staudinger for determination.

VALERIA.

Valeria (Germar), Stephens, Ill. Brit. Ent., Haust. iii. p. 22 (1829); Guénée, Ann. Soc. Ent. Fr. vii. p. 121 (1838); Walker, Cat. xi. p. 529.

In our country this genus is represented by three species, two of which are described as new.

1. **Valeria beryllus.**

Valeria beryllus, Guén. Sp. gén. des Lép. vi. p. 51, t. 8. f. 7[1]; Walk. Cat. xi. p. 531[2].

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL [1] [2].

Guénée's figure of *V. beryllus* is not a good one, but I have no doubt that our Central-American examples are referable to this species.

2. **Valeria laches,** sp. n. (Tab. XXVII. fig. 20.)

Primaries reddish-brown, with the costal and inner margins pale fawn-colour, and several irregular green markings crossing the wing from the costal to the inner margin, the outer part of the wing speckled with greyish scales; secondaries glossy reddish-fawn-colour, palest at the base, the fringe yellowish; the underside of both wings of a uniform glossy pinkish-brown: head, thorax, and tegulæ dark reddish-brown; abdomen yellowish-fawn-colour, becoming reddish at the anus; antennæ dark brown; legs brown. Expanse 2 inches.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

One specimen only of this fine species was sent. *V. laches* has no near known ally.

3. **Valeria uscana,** sp. n. (Tab. XXVII. fig. 23.)

Primaries greenish-brown marked with darker brown, with a black dotted line bordered on the outer side with pinkish-grey crossing the wing beyond the middle from the costal to the inner margin, and some black streaks near the base and along the costal margin, the marking at the end of the cell yellowish bordered with pale green, the fringe greenish-brown; secondaries brownish-black, whitish at the base and inner margin, the fringe greenish-yellow; the underside uniform pale glossy brown, the secondaries with a brown line crossing below the middle from the costal to the inner margin: head, thorax, and abdomen greenish-brown, the abdomen rather paler than the thorax; antennæ and legs brown. Expanse 2 inches.

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*).

Numerous examples. *V. uscana* closely resembles *Hadena auriplena*, Walk., from North India, and also *H. gnoma*, Butl., from Japan.

EUPLEXIA.

Euplexia, Stephens, Ill. Brit. Ent., Haust. iii. p. 3 (1829); Guénée, Sp. gén. des Lép. vi. p. 67; Walker, Cat. xi. p. 542.

This genus is represented in Europe, North, Central, and South America, Africa, and Australia.

1. **Euplexia roseola.**

Euplexia roseola, Feld. & Rogenh. Reise der Novara, Lep. t. 110. f. 7, Erkl. der Taf. 110[1].

Hab. PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—VENEZUELA[1].

The single specimen received from Chiriqui agrees well with Felder and Rogenhofer's figure.

POLYPHÆNIS.

Polyphænis, Boisduval, Gen. et Ind. Meth. Europ. Lep. p. 128 (1840); Guénée, Sp. gén. des Lép. vi. p. 71.

Polyphlænis, Walker, Cat. xi. p. 547.

The species of this genus are scattered over Europe, North, Central, and South America, and the Antilles.

1. **Polyphænis respondens.** (Tab. XXVII. fig. 24.)

Polyphlænis respondens, Walk. Cat. xv. p. 1720[1].

Hab. MEXICO, near the city (*Höge*); HONDURAS[1].—BRAZIL[1]; TRINIDAD.

A specimen from Trinidad in my collection is darker in colour than the one we have received from Mexico, but in all other respects they agree with each other.

HADENA.

Hadena, Guénée, Ann. Soc. Ent. Fr. vii. p. 213 (1838); Walker, Cat. xi. p. 558.

A very large number of species have been placed in *Hadena* by Guénée, Walker, and others; and doubtless when some of these are better known and their earlier stages described, the genus will have to be divided.

1. **Hadena psittacus.**

Mamestra (*Noctua*) *psittacus,* Herr.-Schäff. Samml. aussereur. Schmett. p. 80, f. 216.

Hadena psittacus, Walk. Cat. xi. p. 589[1].

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—VENEZUELA[1].

Our specimens agree perfectly with Herr.-Schäffer's figure; the Costa Rican example is the most richly coloured.

2. **Hadena toxaridia,** sp. n. (Tab. XXVII. fig. 25.)

Primaries dark olive-brown crossed by narrow black lines, with a wide greenish band crossing the wing near the base from the costal to the inner margin, the inner edge of the band narrowly bordered with white, a large greenish spot at the end of the cell becoming whitish on the outer side, a marginal band of greenish-white spots extending from the apex to the anal angle, and along the outer margin a series of small black dots, the fringe greenish-white with black points; secondaries blackish-brown, becoming whitish at the base, the fringe grey; the underside of both wings greyish-brown, each crossed by an indistinct pale waved line: head and thorax greenish-brown, the tegulæ and the hinder part of the thorax

thickly speckled with greyish hairs, the abdomen greyish-brown, the anus greenish; antennæ and palpi dark brown; legs greyish, spotted with brown. Expanse 1½ inch.

Hab. MEXICO, Milpas in Durango 5900 feet (*Forrer*).

One specimen only of this beautiful species has been received; it is not closely allied to any other known to me.

3. **Hadena viridis.**

Hadena viridis, H. Edwards, Papilio, iv. p. 17[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*[1]).

4. **Hadena metallica.**

Hadena metallica, H. Edwards, Papilio, iv. p. 17[1].

Hab. MEXICO, State of Vera Cruz (*Schaus*[1]).

"A very handsome species, somewhat recalling the coloration of *Amphipyra sanguinipuncta*, Guén., from N. S. Wales."—*H. E.*

5. **Hadena (?) impedita.**

Hadena impedita, Walk. Cat. xv. p. 1726[1].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—VENEZUELA[1].

This species is doubtfully referable to the genus *Hadena*.

6. **Hadena latifascia.**

Hadena latifascia, Walk. Cat. xxxiii. p. 730[1].

Hab. MEXICO, Jalapa (*Schaus*), Coatepec (*Brooks*); GUATEMALA, Cerro Zunil 4000 feet, Volcan de Atitlan 2500 to 3500 feet, Dueñas, Senahu (*Champion*); PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—VENEZUELA[1].

This species appears to be very widely distributed. The large spot on the primaries varies considerably in colour, it being much greyer in some specimens than in others.

7. **Hadena aperiens.**

Hadena aperiens, Walk. Cat. xi. p. 755[1].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—VENEZUELA[1].

This in all probability is a very dark form of the preceding species.

8. **Hadena differens**, sp. n. (Tab. XXVII. fig. 26.)

Primaries dark brown, with a broad **V**-shaped reddish-brown mark about the middle, on the outer edge of which, nearest the inner margin, is a very dark brown spot, and an indistinct reddish-brown submarginal

line extending from the apex to the anal angle; secondaries dull brown, slightly paler at the base: head, thorax, and abdomen dark brown, the antennæ and legs brown. Expanse 1½ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species is perhaps nearest allied to *H. aperiens*, but it is a much larger insect.

CALYMNIA.

Calymnia, Hübner, Verz. bek. Schmett. p. 235 (1816); Staudinger, Cat. Lep. Europ. p. 115; Grote, List of North-American Moths, p. 32 (1882).

Cosmia (Ochsenheimer), Guénée, Sp. gén. des Lép. vi. p. 8; Walker, Cat. x. p. 486 (pars).

This genus seems hardly separable from *Hadena*; it contains a few species from Europe, and North, Central, and South America. *Calymnia cirrus*, Feld. & Rogenh., from Venezuela, is probably, as already stated, a *Lycophotia*.

1. Calymnia oryx.

Calymnia oryx, Feld. & Rogenh. Reise der Novara, Lep. t. 109. f. 35, Erkl. der. Taf. 109[1].

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*).—VENEZUELA[1].

This species is very closely allied to *Hadena latifascia*, Walk., but it has the primaries much more brightly coloured.

2. Calymnia bicon, sp. n.

Primaries marked exactly as in *C. oryx*, Feld. & Rogenh., but white (instead of pinkish-brown as in that species), with the outer margin tinged with pinkish-brown; the secondaries darker than in *C. oryx*: the head and the terminal joints of the palpi white (instead of black as in *C. oryx*). Expanse $1\frac{1}{10}$ inch.

Hab. MEXICO, Coatepec (*Brooks*).

C. bicon is, no doubt, very nearly allied to the preceding species; but in the two specimens before me (and in others we have seen from Mexico) the head and the terminal joints of the palpi are white, instead of black as in *C. oryx*. The primaries are also whiter than in *C. oryx*.

ALIBAMA.

Alibama, Möschler, Beitr. zur Schmett.-Faun. von Jamaica, p. 43 (1886).

This genus seems to be exceedingly close to *Hadena* and *Calymnia*; it has the primaries slightly narrower and the thorax not quite so robust. Two species, both from Jamaica, were included in it by Möschler.

1. Alibama mutata.

Alibama mutata, Mösch. Beitr. zur Schmett.-Faun. von Jamaica, p. 44, tab. ff. 5, 5 *a*[1].

Hab. GUATEMALA, Las Mercedes 3000 feet, San Isidro 1600 feet, San Joaquin (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ANTILLES, Jamaica[1].

Our specimens agree perfectly with Möschler's figure.

STIBÆRA.

Stibæra, Walker, Cat. xi. p. 608 (1857).

Walker founded *Stibæra* upon a single species from Brazil which is now known to extend northwards to Northern Mexico; we now add a second from our region. This genus seems to have some affinity with *Thyatira*.

1. Stibæra costiplaga.

Stibæra costiplaga, Walk. Cat. xi. p. 608[1].

Hab. MEXICO, Presidio (*Forrer*), Tonalapa in Guerrero (*H. H. Smith*, June); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe*).—BRAZIL[1].

The type, and also a specimen in my own collection, is from Rio Janeiro. A single example from Guatemala is darker in colour than either of these, while those from Mexico are paler.

2. Stibæra lucina, sp. n. (Tab. XXVII. fig. 27.)

Primaries brownish-grey, with a broad central dark brown band edged on each side with a pale line, and beyond this two indistinct pale waved lines, the second being submarginal, crossing the wing from the costal to the inner margin, the spot at the end of the cell pale greyish-brown; secondaries dark glossy greyish-brown; the underside of both wings greyish, clouded with darker brown: head, thorax, and tegulæ greyish-brown, the abdomen paler but with the anus greyish; antennæ and legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*, April).

One specimen only of this distinct species has been received.

Subfam. *XYLININÆ*.

XYLINA.

Xylena, Ochsenheimer, Schmett. Europ. iv. p. 85 (1816) (pars).

Xylina, Treitschke, Schmett. Europ. v. 3, p. 3 (1826) (pars); Walker, Cat. xi. p. 622; Staudinger, Cat. Europ. Lep. p. 119.

Lithophane, Grote, List of North-American Moths, p. 32 (1882).

Four species of this very widely distributed genus are known to us from Central America.

1. Xylina albula.

Xylina albula, Walk. Cat. xi. p. 629[1].

Hab. HONDURAS[1].—ANTILLES, San Domingo[1].

The only specimens we have seen of this species are those contained in the National Collection.

2. **Xylina detrecta.**

Xylina detrecta, Walk. Cat. xxxiii. p. 750[1].

Hab. MEXICO, Presidio (*Forrer*), Teapa in Tabasco (*H. H. Smith*, Feb. 1888); GUATEMALA, Cerro Zunil 4000 feet (*Champion*); HONDURAS[1]; PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA[1].

Our Central-American specimens agree well with Walker's type in the National Collection.

3. **Xylina esula,** sp. n. (Tab. XXVIII. fig. 1.)

Primaries dark grey streaked and mottled with pale whitish-grey, and with a small black streak in the cell and a waved indistinct black line crossing the wing from the costal to the inner margin beyond it, the fringe grey; secondaries pearly-white, slightly edged with brown at the apex and along part of the outer margin; the underside of the primaries blackish, that of the secondaries as above: head, thorax, and abdomen grey, the anus yellowish; antennæ black, greyish at the base. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*, February).

We have only received one specimen of this distinct but dull-coloured species.

4. **Xylina lytæa,** sp. n. (Tab. XXVIII. fig. 2.)

Primaries pale fawn-colour, clouded with dark blackish-brown on the costal margin near the apex, and with a dark-brown streak at the end of the cell, the fringe pale fawn-colour; secondaries pearly-white, almost hyaline, the fringe white; the underside of the primaries dusky white, slightly darker along the costal margin, that of the secondaries as above: head, thorax, and abdomen brownish-fawn colour, the antennæ and legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Jalapa (*mus. D.*).

For the pleasure of adding this species to our list and the type to my collection, I am indebted to the kindness of M. Paul Dognin, who has submitted all his Mexican moths to me for determination.

MAGUSA.

Magusa, Walker, Cat. xi. p. 762 (1857).

Walker founded this genus upon a single species from San Domingo; Felder and Rogenhofer have since added two from Bogota; and several others, undescribed as yet, are contained in various collections.

1. **Magusa strigifera.**

Magusa strigifera, Walk. Cat. xi. p. 763[1].

Hab. MEXICO, Jalapa (*Schaus*), Mexico city (*Höge*).—ANTILLES, San Domingo[1].

Our Mexican specimens do not differ from Walker's type in the British Museum.

CUCULLIA.

Cucullia, Schrank, Fauna boica, ii. 1, p. 153 (1801); Walker, Cat. xi. p. 637.

Most of the numerous species belonging to this genus are European; nine are known

from North America, one of which we include in our list upon the authority of Dr. Staudinger; and one is now added from Western Mexico.

1. Cucullia postera.

Cucullia postera, Guén. Sp. gén. des Lép. vi. p. 133[1]; Walk. Cat. xi. p. 656[2].

Hab. North America[1 2], Carolina (*Morrison*).—Mexico (*in mus. Staudinger*).

The specimens from Mexico, forwarded to us by Dr. Staudinger for examination, agree well with others from Carolina in my own collection.

2. Cucullia phocylides, sp. n. (Tab. XXVIII. fig. 3.)

Primaries pale grey, with an indistinct wide fawn-coloured band crossing the wing from near the apex to the inner margin, several narrow black streaks near the apex, and a dark brown spot close to the anal angle, the marginal line black, the fringe grey; secondaries dull white, dusky at the apex and along part of the outer margin, the fringe white; the underside of the primaries dusky blackish-brown, that of the secondaries as above: head and front of the thorax dark grey, the rest of the thorax and the abdomen brownish-fawn-colour, the antennæ dark brownish-black, the legs dark grey. Expanse $2\frac{1}{4}$ inches.

Hab. Mexico, Omilteme in Guerrero 8000 feet (*H. H. Smith*, August).

This species is allied to *C. postera*, Guén., from which it differs in having a wide fawn-coloured marking across the primaries and much less colour on the outer margin of the secondaries. It is possible that *C. phocylides* may prove to be inseparable from one or the other of the North-American species of *Cucullia* described by Lintner; but it is not likely that this is the case. The single specimen received is probably a female.

Subfam. *HELIOTHINÆ*.

CHLORIDEA.

Chloridea, Westwood, in Duncan's Nat. Libr. xxxvii. p. 198 (1841); Walker, Cat. xi. p. 677.

Prof. Westwood founded this genus upon *Phalæna rhexiæ*, Abbot and Smith, from Georgia; and Walker subsequently added two others to it, one from North America and one from the Antilles.

1. Chloridea rhexiæ.

Phalæna rhexiæ, Abbot & Smith, Lep. Ins. Georgia, ii. p. 199, t. 100[1].

Chloridea rhexiæ, Westw. in Duncan's Nat. Libr. xxxvii. p. 198, t. 24. f. 3; Walk. Cat. xi. p. 678[2]; Grote, List of North-American Moths, p. 35 (1882); Druce, P. Z. S. 1884, p. 323[3].

Aspila rhexiæ, Guén. Sp. gén. des Lép. vi. p. 175[4].

? *Noctua virescens*, Fabr. Ent. Syst. iii. 2, p. 30. no. 72; Oliv. Encycl. Méth. viii. p. 269.

? *Aspila virescens*, Guén. Sp. gén. des Lép. vi. p. 175[5].

? *Chloridea virescens*, Walk. Cat. xi. p. 678[6].

Heliothis spectanda, Streck. Lep. N. Am. p. 122 (1876)[7].

Chloridea spectanda, Grote, List of North-American Moths, p. 35 (1882).

Hab. North America [4], Virginia [1], Georgia [1 2], Florida [2], Texas [7].—Mexico, Cordova (*Rümeli*), Coatepec (*Brooks*), Chilpancingo in Guerrero 4000 feet (*H. H. Smith*, June); Guatemala, San Gerónimo (*Champion*); Panama, Volcan de Chiriqui (*Arcé, mus. D.*).—South-east Brazil, Cabo; Amazons, Santarem [2], S. Paulo; Antilles [6], San Domingo [2], Dominica [3], St. Thomas [5], Guadaloupe [5].

This species is very widely distributed. It varies to some extent, none of the specimens before me being anything like so brightly coloured as Abbot and Smith's figure; those from Brazil are darker than the examples from the more northern localities. The larva is well-figured by Abbot and Smith, who state that it feeds on *Rhexia virginica* as well as on the tobacco-plant. I think it most probable that Abbot and Smith's insect is not distinct from *Noctua virescens*, Fabr., if so the Fabrician name has priority.

HELIOTHIS.

Heliothis, Ochsenheimer, Schmett. Europ. iv. p. 91 (1816); Treitschke, Schmett. Europ. v. 3, p. 230 (1826); Guénée, Ann. Soc. Ent. Fr. x. p. 56 (1841); Walker, Cat. xi. p. 680.

The species of this genus are very widely distributed all over the globe; two only from Central America are known to us.

1. **Heliothis armiger.**

Noctua armigera, Hübn. Europ. Schmett. iv. t. 79. f. 370; Dup. Hist. Nat. Lép. Fr. vii. p. 316, t. 119. ff. 6, 7; Frey. Beitr. iii. t. 203.

Heliothis armigera, Treitschke, Schmett. Europ. v. 3, p. 230; Boisd. Faun. ent. Madag., Bourbon et Maurice, Lép. p. 98; Walk. Cat. xi. p. 683 [1]; Guén. Sp. gén. des Lép. vi. p. 181; Druce, P. Z. S. 1884, p. 323 [2].

Heliothis armiger, Staud. Cat. Lep. Europ. p. 130.

Heliothis umbrosus, Grote, Proc. Ent. Soc. Phil. i. pp. 219, 347 [3], and ii. p. 276.

Heliothis interjacens, Grote, Bull. Brooklyn Soc. iii. p. 30 [4]; List of North-American Moths, p. 36 (1882).

Hab. North America, Long I.[3], Georgia [1], California, Florida, Texas (*F. D. G.*), Arizona [4].—Mexico [1], Milpas in Durango 5900 feet (*Forrer*), Cuernavaca in Mórelos (*H. H. Smith*, June), Mexico city (*Höge*); Guatemala, San Gerónimo, Zapote (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Venezuela [1]; Brazil [1]; Chili; Antilles, Dominica [2], Jamaica [1].—Europe [1]; Asia [1]; Africa [1]; Australia [1]; Madagascar [1]; New Zealand [1]; Samoa Islands [1], &c.

This very common and widely-distributed insect is found in all parts of the world. With a large series of specimens before me, I am unable to separate *H. interjacens*, Grote, the type of which is contained in the National Collection, from *H. armiger*; in Grote's List of N.-Amer. Moths, 1882, the former is placed as a synonym of *H. phlogophagus*. *H. armiger* is extremely variable: some specimens from Mexico being pale

straw-colour, while others are quite dark brown; and many of our examples do not differ from European ones. The specimen captured by Mr. Godman at El Paso, Texas, is smaller and darker in colour than any we have seen from Central America.

2. **Heliothis phlogophagus.**

Heliothis phloxiphaga, Grote & Robinson, Trans. Am. Ent. Soc. i. p. 187 [1].
Heliothis phlogophagus, Grote, List of North-American Moths, p. 36 (1882).
Heliothis luteitinctus, Grote, List of Noct. of Am. north of Mexico, p. 19, footnote no. 24 (1875) [2].
Heliothis phlogophagus, var. *luteitinctus,* Grote, List of North-American Moths, p. 36, and footnote (1882) [3].

Hab. North America, Kansas [2], Illinois [1], Colorado [1].—Mexico, Milpas in Durango 5900 feet (*Forrer*), Mexico city (*Höge*).

Our Mexican specimens do not differ from those named *H. luteitinctus* in Grote's collection now in the British Museum. *H. luteitinctus*, according to Grote [3], is a yellow-winged variety of *H. phlogophagus.* The larva of this species is stated [1] to feed upon *Phlox.*

ANTHŒCIA.

Anthœcia, Boisduval, Gen. et Ind. Meth. Europ. Lep. p. 162 (1840); Guénée, Sp. gén. des Lép. vi. p. 183; Walker, Cat. xi. p. 691; Grote, List of North-American Moths, p. 36 (1882).

Walker included twelve species in this genus—five from Europe, six from North America, and one from an unknown locality. Numerous species from North America have since been added to it. The genus is not adopted by Staudinger in his European Catalogue.

1. **Anthœcia meskeana.**

Lygranthœcia meskeana, Grote, Canad. Entom. vii. p. 224 [1].
Anthœcia meskeana, Grote, List of North-American Moths, p. 36 (1882).
Heliothis fastidiosa, Streck. Lep. N. Am. p. 121 (1876) [2].

Hab. North America, Texas [1] [2].—Mexico, Jalapa (*Höge*).

Our specimen from Jalapa agrees with one in the Grote collection. According to Grote (Canad. Entom. viii. p. 26), *Heliothis fastidiosa* is not distinct from *A. meskeana.*

2. **Anthœcia emessa,** sp. n. (Tab. XXVIII. fig. 4.)

Primaries with the base purplish-brown crossed by a dark brown curved line, beyond this olive-green shading off almost to white, the whole part limited externally by a second brown line, and thence almost to the outer margin olive-brown, the latter shaded with pink, the fringe greyish; secondaries blackish-brown, paler at the base; the underside of both wings uniformly blackish-brown: head, thorax, and abdomen pale olive-brown, the underside of the abdomen greyish-white, the antennæ and legs pale brown. Expanse 1½ inch.

Hab. Guatemala, Pantaleon 1700 feet (*Champion*).

One specimen only of this beautiful insect was captured. It is not closely allied to any other species known to me.

3. **Anthœcia scira,** sp. n. (Tab. XXVIII. fig. 5.)

Primaries yellowish-brown, darkest in the middle and along the costal margin, with a bluish-white narrow waved line crossing the wing near the base from the costal to the inner margin, the dark brown part of the wing thickly irrorated with pale blue scales, the outer margin from the apex to the anal angle broadly bordered with creamy-white; secondaries brownish-black, with the fringe almost white: head dark brown, the front of the thorax and the tegulæ yellowish-white, the rest of the thorax white; abdomen above blackish-brown, beneath dusky white; antennæ and legs dark brown. Expanse $1\frac{4}{10}$ inch.

Hab. MEXICO, Rincon in Guerrero 2800 feet (*H. H. Smith*).

Of this very beautiful insect a single example was captured by Mr. Smith in September 1888.

ADISURA.

Adisura, Moore, P. Z. S. 1881, p. 367; Descr. New Indian Lep. Ins. Coll. Atkinson, p. 136.

The species included in this genus by Moore are all from India or the Eastern Archipelago. We have to add one from Costa Rica, this also being known to me from the Lower Niger.

1. **Adisura imitata,** sp. n. (Tab. XXVIII. fig. 6.)

Primaries silky white, with the costa and a streak extending from the base to the anal angle bright pink; secondaries dusky white; the underside of both wings dusky white: head, thorax, and abdomen yellowish-white. Expanse 1 inch.

Hab. COSTA RICA (*Van Patten*).—AFRICA, Lower Niger (*mus. D.*).

One worn specimen of this species has been received by us from Van Patten. It is not separable from others from the Lower Niger in my own collection; these latter were collected by the late W. A. Forbes.

Subfam. *ACONTIINÆ.*

AGROPHILA.

Agrophila, Boisduval, Gen. et Ind. Meth. Europ. Lep. p. 175 (1840) (pars); Guénée, Ann. Soc. Ent. Fr. x. p. 228 (1841); Sp. gén. des Lép. vi. p. 204; Walker, Cat. xii. p. 772, & xxxiii. p. 774.

The species of this genus are distributed over Europe, North, Central, and South America, and the Antilles; seven are known to us from Central America.

1. **Agrophila transmutata.**

Agrophila transmutata, Walk. Cat. xxxiii. p. 776 [1].

Spragueia pardalis, Grote, Papilio, i. p. 50 [2]; List of North-American Moths, p. 38 (1882).

Hab. NORTH AMERICA, Florida [2].—MEXICO, Presidio (*Forrer*); GUATEMALA, San Isidro 1600 feet (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—ANTILLES, San Domingo [1].

Our specimens agree perfectly with Walker's type in the National Collection, and also with the North-American insect named by Grote.

2. Agrophila rudisana.

Agrophila rudisana, Walk. Cat. xxxiii. p. 776 [1].

Hab. MEXICO, Presidio (*Forrer*).—ANTILLES, San Domingo [1].

Mexican specimens do not differ from Walker's type.

3. Agrophila trifariana.

Agrophila trifariana, Walk. Cat. xxxiii. p. 777 [1].

Hab. MEXICO, Acapulco and Dos Arroyos in Guerrero, Teapa in Tabasco, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, San Gerónimo, San Isidro 1600 feet (*Champion*).

The locality of this species was unknown to its describer [1]. Our specimens from Mexico and Guatemala agree well with the type in the National Collection. Mr. Smith met with this insect in Mexico in the months of March, April, and September 1888, one specimen only having been found in each locality.

4. Agrophila apicella.

Emmelia (*Agrophila*) *apicella*, Grote, Trans. Am. Ent. Soc. iv. p. 21 [1]; Bull. Buff. Soc. ii. p. 199.
Fruva apicella, Grote, List of North-American Moths, p. 38 (1882).
Agrophila truncatula, Zeller, Verh. zool.-bot. ges. Wien, xxiii. p. 203, t. 3. f. 1 [2]; xxv. pp. 327, 328.
Fruva accepta, H. Edwards, Papilio, i. p. 24 [3].

Hab. NORTH AMERICA, Alabama [1], Texas [2], Florida [3].—MEXICO, Rio Papagaio 1200 feet and Venta de Zopilote in Guerrero 2800 feet, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, San Gerónimo, Zapote (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe*).

This insect is widely distributed and not uncommon in our country, and we are now enabled to trace it as far south as the Volcan de Chiriqui. It appears to have been described no less than three times.

5. Agrophila marmorea.

Aphusia marmorea, Butl. Trans. Ent. Soc. Lond. 1879, p. 27 [1].

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Las Mercedes 3000 feet, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—AMAZONS, Rio Jutahi [1].

This species varies considerably, some examples being much greener in tint than others. Mr. Smith obtained specimens of it in Southern Mexico in March 1888. *A. marmorea* appears to have a more southern distribution than *A. apicella*.

6. Agrophila cleta, sp. n. (Tab. XXVIII. fig. 7.)

Primaries orange-yellow, paler along the costal margin, the latter marked with fine very small black dots, a round black spot at the end of the cell, a slate-coloured streak on each side extending to the inner margin, and a black spot close to the base and another at the apex, the fringe orange; secondaries dark brown; the underside of both wings dark brown: head, front of the thorax, and tegulæ orange-yellow, the rest of the thorax and the abdomen brown, each segment of the latter edged with yellow; antennæ brown; the legs pale yellowish-brown. Expanse $\frac{6}{10}$ inch.

Hab. Mexico, Omilteme in Guerrero 8000 feet (*H. H. Smith*, July).

One specimen.

7. **Agrophila phænna,** sp. n. (Tab. XXVIII. fig. 8.)

Primaries dusky white, darkest along the inner margin and near the anal angle, with three small dots along the costal margin, one at the end of the cell, and a small one in the cell, brownish-black, and two similarly-coloured streaks on the inner margin near the anal angle, the fringe dark brown; secondaries dusky white, darkest round the outer margin: head, collar, and tegulæ white, the thorax and abdomen brownish-white, the legs and antennæ black. Expanse $\frac{6}{10}$ inch.

Hab. Cuernavaca in Morelos (*H. H. Smith*, June).

This species is very distinct from any other known to me.

METOPONIA *.

Metoponia (Duponchel), Guénée, Sp. gén. des Lép. vi. p. 206 (1852); Walker, Cat. xii. p. 775.

Walker included two species in this genus, and since the publication of his Catalogue several others have been described by various authors. We have lately received three species from Mexico, all of which were captured in the State of Guerrero.

1. **Metoponia demo,** sp. n. (Tab. XXVIII. fig. 9.)

Primaries bright yellow, with three brown marks along the costal margin, a large brown spot about the middle of the inner margin, and several minute dots near the base, an indistinct waved line crossing the wing beyond the middle from the costal to the inner margin, and a submarginal row of small brown spots extending from the apex to the anal angle, the fringe brown and yellow; secondaries black, with the fringe yellow; the underside of both wings yellow but much suffused with brown: head, palpi, and antennæ brown, the thorax and anus yellow, the abdomen black above and reddish-brown beneath, the legs pale brown. Expanse $1\frac{1}{2}$ inch.

Hab. Mexico, Amula in Guerrero 6000 feet (*H. H. Smith*, August).

This species is perhaps nearest allied to *M. obtusa*, Herr.-Schäff. Two specimens only were obtained by Mr. Smith.

2. **Metoponia primulina,** sp. n. (Tab. XXVIII. fig. 10.)

Primaries pale primrose-colour, with four minute dots placed in a straight line and extending along the costal margin, and a brown streak close to the base on the inner margin; secondaries dusky white, darker in some specimens than in others; the underside of both wings cream-colour, that of the primaries irrorated with black scales and with the costal margin black at the base and thence to the apex yellow: head, front of the thorax, and tegulæ pale primrose-colour, the tegulæ edged with dark brown, the rest of the thorax dark brown, the abdomen brown above but yellowish-white beneath, the antennæ and legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. Mexico, Omilteme in Guerrero 8000 feet (*H. H. Smith*, August).

Allied to the preceding, from which it may be at once distinguished by its paler primaries and very differently-coloured secondaries. Several specimens.

* This generic name, as noted by Walker, is preoccupied in Diptera, Macquart, 1847.

3. **Metoponia (?) procida,** sp. n. (Tab. XXVIII. fig. 11.)

Primaries pale brownish-yellow, clouded with brown at the base and along the inner margin, two dark brown spots on the costal margin and one on the middle of the inner margin, the wing crossed from the costal to the inner margin by five very indistinct narrow waved brown lines; the secondaries blackish; the fringe of both wings yellow: head, thorax, and tegulæ pale yellowish-brown, the abdomen black above and pale brown beneath, the antennæ and legs brown. Expanse 1 inch.

Hab. MEXICO, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*).

One specimen, captured in October 1888.

EUGRAPHIA.

Eugraphia, Guénée, Sp. gén. des Lép. vi. p. 208 (1852); Walker, Cat. xii. p. 776.

This genus was founded by Guénée for the reception of a single species, *E. irretita* (Hübn.), from Brazil. A very fine new one from Chiriqui is now added.

1. **Eugraphia effusa,** sp. n. (Tab. XXVIII. fig. 12.)

Primaries cream-colour, broadly bordered with brownish-black from the apex to the anal angle, and with three narrow black lines crossing the wing from the costal margin and joining the marginal band about the middle, the black lines and the outer borders thickly irrorated with metallic green scales; secondaries bright yellow, broadly bordered with black from the apex to about the middle of the outer margin, a yellow spot on the costal margin close to the apex; the fringe of the primaries greenish-black, that of the secondaries white; the underside of both wings bright yellow, with the outer margins black: head and thorax cream-colour, the abdomen and anal tuft pale yellow, the underside of the thorax and abdomen and the legs almost white, the antennæ black. Expanse $1\frac{3}{10}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).

Allied to *E. irretita*, from which it may be at once distinguished by the broad dark-coloured outer margins of the primaries and secondaries.

XANTHODES.

Xanthodes, Guénée, Sp. gén. des Lép. vi. p. 209 (1852).

This genus has a very extended distribution, species being found in Europe, Asia, and Africa; and we now have to record three from Central America.

1. **Xanthodes laverna,** sp. n. (Tab. XXVIII. fig. 13.)

Primaries greyish fawn-colour, crossed by three yellowish-brown bands, edged with paler colour on one side, the two outer bands being >-shaped and joining in a point close to the apex on the outer margin, the fringe brownish; secondaries yellowish fawn-colour: head, thorax, abdomen, and legs greyish, the anus dusky, the antennæ pale brown. Expanse $1\frac{7}{10}$ inch.

Hab. MEXICO, Cuesta de Misantla (*M. Trujillo*), Jalapa (*Schaus*); GUATEMALA, Zapote, San Gerónimo (*Champion*).

This species bears a slight resemblance to *X. flava* (Fabr.) (=*transversa*, Guén.); but it is entirely different in colour. *X. laverna* appears to be peculiar to Mexico and Guatemala. Our figure is taken from a San Gerónimo specimen.

2. **Xanthodes malacha,** sp. n. (Tab. XXVIII. fig. 14.)

Primaries brownish fawn-colour, darkest near the apex and along the outer margin, crossed by three narrow dark brown lines, the first nearest the base and almost straight from the costal to the inner margin, the second and third >-shaped; secondaries uniformly pale yellowish fawn-colour, the fringe pale brown: head, thorax, and legs brownish fawn-colour, the abdomen yellowish, the antennæ brown. Expanse $1\frac{3}{10}$ inch.

Hab. MEXICO, Cuernavaca in Morelos (*H. H. Smith*).

One specimen of this distinct species was captured by Mr. Smith in June 1888.

3. **Xanthodes (?) paulina,** sp. n. (Tab. XXVIII. fig. 15.)

Primaries bright purplish-brown, crossed by three dark brown lines (as in *X. laverna*, but with the lines rather straighter), a few greyish scales along the costal margin and at the apex, and some indistinct greyish dots along the outer margin, the fringe yellowish-brown; secondaries dark brown, shading off to greyish-brown at the base, the fringe almost white; the underside of both wings brown, with the costal and outer margins pinkish-brown: head and front of the thorax reddish-brown, the rest of the thorax and the tegulæ darker brown; abdomen brown above, the underside and the anus reddish-brown; antennæ and legs brown. Expanse 2 inches.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR, Sarayacu (*Buckley*).

We have received one specimen of this fine species from Chiriqui. Examples from Ecuador in my own collection are rather brighter in colour and slightly larger.

ACONTIA.

Acontia, Ochsenheimer, Schmett. Europ. iv. p. 91 (1816); Treitschke, Schmett. Europ. v. 3, p. 237; Walker, Cat. xii. p. 781.

A large number of species from all parts of the world are placed in this genus by Walker, and many others have since been described by Felder and Rogenhofer, and also by Moore; fifteen are here enumerated from Central America.

1. **Acontia debilis.**

Acontia debilis, Walk. Cat. xii. p. 786[1].

Tarache debilis, Grote, List of North-American Moths, p. 37 (1882).

Hab. NORTH AMERICA, East Florida[1].—MEXICO, Northern Sonora (*Morrison*), Presidio (*Forrer*).

Our two specimens from Northern Mexico agree well with Walker's type in the National Collection.

2. **Acontia tetragona.**

Acontia tetragona, Walk. Cat. xi. p. 786[1].

Hab. MEXICO, State of Durango (*Forrer*); GUATEMALA, Panzos, San Gerónimo (*Champion*); HONDURAS.—ANTILLES, San Domingo[1].

Our specimens show a considerable amount of variation: one from the State of

Durango is whiter at the base of the primaries than any of the others, but amongst these latter every grade between it and the typical form from San Domingo is to be found.

3. **Acontia redita.**

Acontia redita, Feld. & Rogenh. Reise der Novara, Lep. t. 108. f. 30, Erkl. der Taf. 108. no. 30[1].

Hab. MEXICO, Northern Sonora (*Morrison*), State of Durango (*Forrer*), Jalapa (*Höge*), Cordova (*Rümeli*), Atoyac in Vera Cruz, Cuernavaca in Morelos, Amula in Guerrero 6000 feet (*H. H. Smith*).

This species appears to be very variable, and is closely allied to *A. tetragona*, Walk. The specimens from Jalapa agree best with Felder's figure; those from the State of Durango and Cordova are darker and more strongly marked. The examples received from Mr. Smith are labelled as having been found between the months of April and August 1888. The original locality for *A. redita* was unknown to Felder and Rogenhofer[1].

4. **Acontia bilimeki.**

Acontia bilimeki, Feld. & Rogenh. Reise der Novara, Lep. t. 108. f. 29, Erkl. der Taf. 108. no. 29[1].

Hab. MEXICO, Presidio (*Forrer*), Cuernavaca[1], Amula 6000 feet, and Xucumanatlan 7000 feet in Guerrero (*H. H. Smith*), Orizaba (*H. H. Smith & F. D. G.*), Mexico city (*Höge*).

Specimens of this species were captured by Mr. Smith between the months of June and December 1888; it is allied to *A. tetragona*, Walk., but quite distinct.

5. **Acontia phecolisca,** sp. n. (Tab. XXVIII. fig. 16.)

Acontia phecolisca, Walk. in litt.

Primaries white from the base and along the costal margin, the outer half of the wing mottled with brownish-black, much as in *A. tetragona*. Expanse $\frac{6}{10}$ inch.

Hab. MEXICO, Northern Sonora (*Morrison*), Venta de Zopilote in Guerrero 2800 feet (*H. H. Smith*).

Agrees well with specimens in the National Collection labelled as above by Walker, but I am unable to find that it has been described. Mr. Smith's examples were captured in October 1888. The species is allied to *A. tetragona*, Walk., but is altogether a smaller insect and more darkly coloured.

6. **Acontia embolima,** sp. n. (Tab. XXVIII. fig. 17.)

Primaries pale yellowish-brown, crossed by indistinct undulating darker brown lines, the costal margin from the base to near the apex broadly bordered with white, and a large white spot close to the anal angle; secondaries dusky white, darkest at the apex and round the outer margin: head and front of the thorax white, the rest of the thorax and abdomen yellowish-white; antennæ pale brown; legs dusky white. Expanse 1 inch.

Hab. MEXICO, Northern Sonora (*Morrison*).

A very distinct species.

7. **Acontia apela,** sp. n. (Tab. XXVIII. fig. 18.)

Primaries yellowish-cream-colour, crossed beyond the middle by a much broken brown band, the band forming an irregular **V**-shaped mark (this being much more strongly defined in some specimens than in others) on the costal margin, and widening before it reaches the inner margin, where it forms a dark brown patch, and with two minute black spots in the cell, and a submarginal row of black points extending from the apex nearly to the anal angle, the fringe brown and yellowish-cream-colour; secondaries brown, palest at the base, the fringe pale yellow: head, thorax, and abdomen yellowish-cream-colour; the legs and the underside of the thorax and of the abdomen greyish-brown; the antennæ dark brown. Expanse 1 inch.

Hab. MEXICO, Presidio (*Forrer*), Venta de Zopilote in Guerrero 2800 feet (*H. H. Smith*).

This species varies considerably in colour, some specimens being much yellower than others. Mr. Smith met with it in the month of October. Our figure is taken from a Guerrero specimen.

8. **Acontia philomela,** sp. n. (Tab. XXVIII. fig. 19.)

Primaries greyish-black, mottled with white near the apex, and with three dusky white streaks on the costal margin beyond the middle; secondaries dusky brown, darkest at the apex and round the costal margin, the fringe yellowish-white: head, thorax, and abdomen dark greyish-brown; antennæ black; legs greyish. Expanse 1 inch.

Hab. MEXICO, Venta de Zopilote in Guerrero 2800 feet (*H. H. Smith*).

One specimen, captured in October 1888. This small dull-coloured species seems to come nearest *A. pyralina*, Walk., from Sierra Leone.

9. **Acontia phya,** sp. n. (Tab. XXVIII. fig. 20.)

Primaries brownish-black, mottled with darker brown, the base broadly banded with white, a large **U**-shaped white mark on the costal margin rather beyond the middle, and two small dark brown dots between the white markings; secondaries greyish-white, dusky from the apex to the anal angle: head and collar dark brown, the tegulæ and thorax white; abdomen pale brown, the anus greyish; legs pale brown. Expanse $\frac{3}{4}$ inch.

Hab. MEXICO, Cuernavaca in Morelos (*H. H. Smith*).

One example only, captured in June 1888. This pretty little species is allied to *A. redita*, Feld. & Rogenh., but is altogether a smaller insect and very differently marked with white.

10. **Acontia valena,** sp. n. (Tab. XXVIII. fig. 21.)

Primaries dark brown, shading off to pale straw-colour at the apex and along the outer margin, with a small white spot close to the base on the costal margin, and beyond this at about the middle an elongate similarly-coloured patch; secondaries greyish-white, almost hyaline near the base, the outer margin from the apex to the anal angle dusky brown, the fringe greyish: head and thorax dark brown; the abdomen pale greyish-brown; the antennæ and legs dark brown. Expanse 1 inch.

Hab. MEXICO, Cordova (*Rümeli*); GUATEMALA, San Gerónimo (*Champion*).

This species is quite distinct from all others of the genus yet described. The single

specimen received from Mexico is smaller and rather paler in colour than those from Guatemala ; our figure is taken from one of the latter.

11. **Acontia phænna,** sp. n. (Tab. XXVIII. fig. 22.)

Primaries dark brownish-fawn-colour, quite pale on the costal margin at the base, with two white streaks on the costal margin (the first the largest, the second smaller and nearest the apex), a cream-coloured spot at the anal angle, bordered on the inner side by a waved reddish-brown line, and a submarginal row of minute black dots edged with white on the inner side, the fringe pale brown ; secondaries dark brown, palest near the base, the fringe pale yellowish-brown ; the underside of both wings pale fawn-colour, that of the primaries shaded with dark brown near the apex : head, collar, and front of the thorax white, the rest of the thorax, the abdomen, and tegulæ pale brown ; the underside of the abdomen almost white ; the antennæ dark brown ; the legs pale fawn-colour. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Presidio (*Forrer*).

This species comes nearest to an unnamed one from South Africa in my own collection.

12. **Acontia costalis.** (Tab. XXVIII. fig. 23.)

Acontia (?) *costalis,* Walk. Cat. xii. p. 787 [1].

Hab. MEXICO, Xucumanatlan in Guerrero 7000 feet (*H. H. Smith,* July 1888), Valladolid in Yucatan (*Gaumer*) ; GUATEMALA, Panzos, San Gerónimo (*Champion*).—AMAZONS, Santarem [1] ; ANTILLES, San Domingo [1].

The few specimens we have received of this species agree with Walker's type in the National Collection. We figure one from Mexico.

13. **Acontia (?) damia,** sp. n. (Tab. XXVIII. fig. 24.)

Primaries bright pea-green, the base and the outer third of the wing dark brown, a narrow waved white line crossing from the costal to the inner margin beyond the middle; secondaries bright orange, slightly shaded with brown at the apex; the underside of both wings orange, shaded near the apex with pale brown : head, thorax, and abdomen pale brown ; the antennæ and legs brown. Expanse $1\frac{1}{10}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

Only one specimen of this beautiful species was obtained ; I place it in the genus *Acontia* with considerable doubt.

14. **Acontia dacia,** sp. n. (Tab. XXVIII. fig. 25.)

Primaries pale brown, very pale near the base, with a dark brown line crossing the wing from the inner margin near the base, but not reaching the costal margin, a reddish-brown spot close to the anal angle, and a white streak starting from the costal margin near the apex, but not reaching the outer margin, the apex and the costal margin very pale brown ; secondaries dusky white, darkest at the apex and round the outer margin to the anal angle : head, thorax, and abdomen pale greyish-brown ; the antennæ brown. Expanse $1\frac{1}{10}$ inch.

Hab. MEXICO, Jalapa (*Höge*), Cordova (*Rümeli*), Atoyac in Vera Cruz (*Schumann, H. H. Smith*) ; PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

The specimen from the Volcan de Chiriqui in Dr. Staudinger's collection is larger than any of our Mexican examples, and is also considerably darker in colour, but the markings are identical.

Mr. Smith's Atoyac specimens are labelled as having been captured in the month of April.

15. **Acontia cratina,** sp. n. (Tab. XXVIII. fig. 26.)

Primaries pale greyish-brown, becoming much darker near the outer margin, with a large black mark near the apex (like an inverted C), edged with a narrow white line, and a dark brown streak near the base extending across the wing from the costal margin, but not reaching the inner margin; secondaries dark brown, becoming paler near the base, the fringe very pale brown; the underside of the primaries very dark brown, palest along the costal margin and at the apex, that of the secondaries uniform pale fawn-colour: head and thorax greyish-brown; the abdomen pale brown; the antennæ and legs brown. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Atoyac in Vera Cruz (*H. H. Smith*, April 1888).

This species is allied to *A. dacia*, from which it may be at once distinguished by its larger size and entirely different colour.

DIASTEMA.

Diastema, Guénée, Sp. gén. des Lép. vi. p. 317 (1852); Walker, Cat. xii. p. 879.
Nipista, Walker, Cat. xii. p. 799 (1857).

Guénée associated *Diastema* with *Placodes* in his family Placodidæ. The genus is, without doubt, very closely allied to *Acontia*.

1. **Diastema tigris.**

Diastema tigris, Guén. Sp. gén. des Lép. vi. p. 317, Noct. t. 15. f. 2[1]; Walk. Cat. xii. p. 879[2].
Nipista lineata, Walk. Cat. xii. p. 800[3].

Hab. MEXICO, Presidio (*Forrer*), Tierra Colorada in Guerrero 2000 feet, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA (*Gabb, mus. D.*); PANAMA, Volcan de Chiriqui (*Arcé, mus. D.*), Panama city (*J. J. Walker*).—COLOMBIA [1] [2]; VENEZUELA [3].

This species varies in colour, some specimens being much darker and more strongly marked than others. The Mexican examples are the brightest.

Mr. Smith met with this insect at Tierra Colorada in the month of October, and at Teapa in February and March, 1888.

DACIRA.

Dacira, Walker, Cat. xii. p. 801 (1857).

This genus, which was established by Walker upon a single species, *D. combusta*, from the Amazons, seems to me to be extremely close to *Acontia*; one species inhabits Central America. *D. combusta* is now known from as far north as Ecuador.

1. **Dacira forreri,** sp. n. (Tab. XXVIII. fig. 27.)

Primaries brownish-black, a white spot close to the base, and a broad white band much dentated on the outer edge crossing the wing from the costal to the inner margin, the fringe white with a black spot on the middle of the outer margin; secondaries pure white, almost hyaline, but slightly dusky at the apex; the

underside of the primaries dusky, with the white band very indistinct, that of the secondaries as above: head and front of the thorax white, the rest of the thorax and the abdomen blackish-brown; the antennæ black. Expanse 1 inch.

Hab. MEXICO, Presidio (*Forrer*).

DROBETA.

Drobeta, Walker, Cat. xv. p. 1755 (1858).

Drobeta differs from most of the allied genera in the form of the primaries. A single species only, from Venezuela, was included in it by Walker. We have now to record four from Central America, two of which are described as new.

1. **Drobeta exscendens.**

Drobeta exscendens, Walk. Cat. xv. p. 1755 [1].

Hab. PANAMA, Volcan de Chiriqui 4000 feet (*Champion*).—VENEZUELA (*Dyson* [1]).

The single specimen received from Chiriqui agrees very nearly with the type in the National Collection.

2. **Drobeta delectans.**

Dianthæcia (?) *delectans*, Walk. Cat. xi. p. 505 [1].

Hab. GUATEMALA, Volcan de Atitlan 3000 feet (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS, Santarem [1].

This species seems to me to be better placed in *Drobeta*, it being, without doubt, closely allied to *D. exscendens*. The specimen received from Guatemala is considerably paler than the type, though not otherwise differing from it.

3. **Drobeta tiresias**, sp. n. (Tab. XXIX. fig. 1.)

Primaries dark silky brown, clouded with very dark brown near the apex from the costal to the outer margin, with two narrow dark brown lines crossing the wing close to the base from the costal to the inner margin, several faint brown lines crossing beyond the cell from the inner margin to the dark brown marking near the apex, and a dark brown spot at the anal angle; secondaries dark brown, with a pale brown streak along the inner margin, the fringe pale brownish-white: head and thorax pale brown, the collar dark brown; the abdomen, antennæ, and legs pale brown. Expanse $1\frac{4}{10}$ inch.

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*).

4. **Drobeta ithaca**, sp. n. (Tab. XXIX. fig. 2.)

Primaries pale brown, with darker brown lines crossing from the costal to the inner margin and several rows of small lunular-shaped white spots crossing the wing beyond the middle, the fringe alternately dark and light yellowish-brown; secondaries glossy dark blackish-brown, with the fringe pale fawn-colour: head, thorax, and abdomen pale brown, the anal tuft black, the antennæ pale brown, the legs brown. Expanse $1\frac{3}{10}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

Subfam. *EUSTROTIINÆ.*

PSEUDINA.

Pseudina, Guénee, Sp. gén. des Lép. vi. p. 226 (1852); Walker, Cat. xii. p. 802.

Guénée founded this genus upon a single species from Brazil; a second is now added from Mexico.

1. **Pseudina cnossia,** sp. n. (Tab. XXVIII. fig. 28.)

Primaries pale greyish-brown, shaded with darker brown near the base, crossed about the middle by two waved narrow white lines, and with a marginal white line, on the outer side of which are some very minute black dots and on the inner side a very indistinct waved brown line extending from the costal margin near the apex to the anal angle; secondaries uniform pale fawn-colour, slightly darker at the apex and round the outer margin, the fringe greyish: head, thorax, and abdomen pale greyish-brown; the antennæ and legs pale brown. Expanse 1 inch.

Hab. MEXICO, Presidio (*Forrer*).

This species differs from *P. vellerea,* Guén., in its very different markings.

EUSTROTIA.

Eustrotia, Hübner, Verz. bek. Schmett. p. 253 (1816); Grote, List of North-American Moths, p. 37 (1882).

Erastria, Ochsenheimer, Schmett. Europ. iv. p. 92 (1816); Treitschke, Schmett. Europ. v. 3, p. 250 (1826); Guénée, Sp. gén. des Lép. vi. p. 224; Walker, Cat. xii. p. 804 (nec Hübner).

We follow Grote in adopting the name *Eustrotia* for this genus. Sixteen species from North America are enumerated in this author's Catalogue, and numerous others inhabit Europe. We have to record twelve from Central America, eleven of which are described as new.

1. **Eustrotia musta.**

Erastria musta, Grote & Rob. Trans. Am. Ent. Soc. i. p. 358 [1].

Eustrotia musta, Grote, List of North-American Moths, p. 37 (1882).

Hab. NORTH AMERICA, Atlantic district.—COSTA RICA, Rio Sucio (*Rogers*).

Our Costa Rican specimens do not differ from those from the United States in Mr. Grote's collection.

2. **Eustrotia catæa,** sp. n. (Tab. XXIX. fig. 3.)

Primaries brownish-cream-colour, broadly bordered from the apex to the anal angle with dark brown, with a central indistinct brown band (very narrow and almost divided in the middle) extending from the costal to the inner margin, a small dark brown spot at the end of the cell, and several small similarly-coloured streaks on the costal margin close to the base; secondaries uniformly dark brown; the fringe of both wings brown: head, thorax, abdomen, and legs brown. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*).

One specimen.

3. **Eustrotia glycera,** sp. n. (Tab. XXIX. fig. 4.)

Primaries greenish-brown, streaked beyond the middle with darker brown, with a white band at the end of the cell reaching the costal margin, and on the costal margin between it and the base a white streak, three small white spots on the costal margin, a white line at the apex, and a white spot on the middle of the outer margin; secondaries dark brown, bordered on the costal margin from the base nearly to the apex with white: head, thorax, and abdomen pale greenish-brown; the antennæ and legs brown. Expanse 1 inch.

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

We are indebted to Dr. Staudinger for the opportunity of describing and figuring this species.

4. **Eustrotia catilina,** sp. n. (Tab. XXIX. fig. 5.)

Primaries from the base to beyond the middle dark blackish-brown and from thence to the outer margin pale ochraceous-brown, with a small brown spot on the costal margin near the apex and several very fine indistinct waved brown submarginal lines crossing the wing from the costal to the inner margin, the fringe ochraceous; secondaries dark brown, with the fringe greyish-brown: head, front of the thorax, and tegulæ pale ochraceous, the rest of the thorax, the abdomen, legs, and antennæ dark brown. Expanse $\frac{3}{4}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*).

A single specimen, captured in March 1888.

5. **Eustrotia numa,** sp. n. (Tab. XXIX. fig. 6.)

Primaries pale fawn-colour, with the base, a wide band crossing the wing from the costal margin (where it is narrow) to the inner margin, two faint lines near the apex, and two spots on the outer margin, dark brown, and a dot close to the base and a very minute one at the end of the cell black; secondaries dark silky brown, palest at the base and along the inner margin: head and thorax dark brown; abdomen and legs pale brown, the anal tuft fawn-colour; the antennæ dark brown. Expanse 1 inch.

Hab. MEXICO, Atoyac in Vera Cruz (*H. H. Smith*, April 1888).

This species varies considerably in colour, some specimens being very much darker than others. A pale example is figured.

6. **Eustrotia girba,** sp. n. (Tab. XXIX. fig. 7.)

Primaries pale ochraceous-brown, with a wide submarginal indistinct darker brown band, edged on the outer side with a pale uneven whitish line, crossing the wing from the costal margin near the apex to the inner margin nearest the anal angle, the band and a dark brown patch on the inner margin extending upwards but not reaching the costal margin; secondaries uniformly dull brown, with the fringe paler: head, thorax, and abdomen brown; the antennæ and legs brown. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

A dull-coloured species allied to *E. numa*, but very differently marked.

7. **Eustrotia fausta,** sp. n. (Tab. XXIX. fig. 8.)

Primaries and secondaries uniform pale brownish-fawn-colour, the latter rather the darkest, the former crossed near the base by a wide dark brown band, edged on the outer side with a very narrow white line, and with the basal part of the costal margin of a pinkish shade: head, thorax, abdomen, legs, and antennæ pale brownish-fawn-colour. Expanse 1 inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

A worn specimen of this species has been forwarded to us for determination by Dr. Staudinger; it is not closely allied to any other described member of the genus.

8. **Eustrotia catiena,** n. sp. (Tab. XXIX. fig. 9.)

Primaries dark brown, with a large darker brown spot, edged on both sides with pale lines, extending across the wing from the inner margin, several dark brown streaks near the apex, below which the wing is clouded with blackish-brown, a reddish-brown submarginal line, and two similarly-coloured short streaks on the costal margin, the fringe blackish-brown; secondaries uniformly blackish-brown, darkest round the outer margin from the apex to near the anal angle, the fringe greyish: head, thorax, and abdomen dark brown; the antennæ black; the legs greyish-brown. Expanse $\frac{3}{4}$ inch.

Hab. MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

Mr. Smith captured several specimens of this species in August 1888.

9. **Eustrotia geta,** sp. n. (Tab. XXIX. fig. 10.)

Primaries pinkish-brown, darkest at the base and on the costal margin near the apex, a pinkish-brown line, edged with black on the inner side, crossing the wing at the end of the cell from the costal to the inner margin; secondaries dark silky brown, palest at the base and along the costal margin: head, tegulæ, thorax, and abdomen dark brown; the antennæ almost black. Expanse $\frac{1}{2}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*, March 1888).

A small species allied to *E. catiena.*

10. **Eustrotia gilda,** sp. n. (Tab. XXIX. fig. 11.)

Primaries dark brown, with a wide pale band just before the middle extending from the costal to the inner margin, a dark brown spot about the centre of the outer margin, and round the latter several indistinct pale lines, the fringe pale brown; secondaries blackish-brown, palest at the base and along the costal margin, the fringe paler than the wing: head, thorax, and abdomen dark blackish-brown; the antennæ black; the legs brown. Expanse $\frac{1}{2}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*, March 1888).

11. **Eustrotia fannia,** sp. n. (Tab. XXIX. fig. 12.)

Primaries reddish-brown, with a large stone-coloured spot on the costal margin in front of the cell, the spot edged on both sides with black lines, and a black line crossing from the apex and joining the black edge of the stone-coloured spot and almost forming a black **V**-shaped mark; secondaries dark blackish-brown, the fringe slightly paler: head, thorax, and abdomen almost black; the antennæ black; the legs pale brown. Expanse $\frac{3}{4}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*).

Mr. Smith met with examples of this species from January to March 1888. It varies considerably in colour, some specimens being of a much darker brown than others.

12. **Eustrotia catada,** sp. n. (Tab. XXIX. fig. 13.)

Primaries dark blackish-brown, crossed from the costal to the inner margin by four greyish-blue narrow waved lines; secondaries dark brown, slightly paler on the costal margin: head, thorax, and abdomen black; the antennæ and legs brown. Expanse $\frac{3}{4}$ inch.

Hab. MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*, Aug. 1888).

THALPOCHARES.

Thalpochares, Lederer, Verh. zool.-bot. Ges. Wien, iv. p. 368 (1854); Walker, Cat. xxxiii. p. 800; Staudinger, Cat. Lep. Europ. p. 131 (1871); Grote, List of North-American Moths, p. 37 (1882).

Micra, Guénée, Sp. gén. des Lép. vi. p. 241 (1852).

A large number of species have been referred to this genus by Lederer, Felder, Staudinger, Grote, and others. Six from Central America are here provisionally included in it.

1. **Thalpochares harudes**, sp. n. (Tab. XXIX. fig. 14.)

Primaries pinkish-fawn-colour, darkest along the outer margin and at the apex, the marginal line pale, a large angular-shaped dark brown spot on the middle of the inner margin, the spot not reaching the costal margin and edged with a pale pinkish line, a minute black dot at the end of the cell, the fringe brown; secondaries brownish-white, darkest along the costal margin and at the apex, the fringe brownish-white; the underside of both wings pale brown, shaded with pink at the base: head, thorax, and abdomen pinkish-brown, the anal tuft brown, the antennæ and legs pale brown. Expanse 1 inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Pantaleon 1700 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*; *Ribbe, in mus. Staudinger*).—BRAZIL, Rio Janeiro; ANTILLES, Dominica.

Of this widely distributed species we have received only a few specimens from Central America; and of these the Mexican examples are rather darker in colour than those from Costa Rica or the State of Panama. Mr. Smith's specimens were captured in the months of February and March.

An individual from Pantaleon is figured.

2. **Thalpochares idicra**, sp. n. (Tab. XXIX. fig. 15.)

Primaries pale brown, with a wide reddish-brown band crossing the wing beyond the middle from the costal margin towards (but not reaching) the inner margin near the anal angle, several black streaks along the costal margin, and on the inner margin nearest the base, and extending across the wing, a large blackish-brown spot bordered with a pale brown line; secondaries blackish-brown, palest at the base, the fringe greyish; the underside of both wings pale brown: head, thorax, abdomen, antennæ, and legs brown. Expanse 1 inch.

Hab. MEXICO, Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*, Sept. 1888); GUATEMALA, San Gerónimo (*Champion*).

A very distinct species allied to *T. harudes*, from which it may be at once distinguished by the different shape of the dark spot on the primaries.

A Guatemalan specimen is figured.

3. **Thalpochares hirasa**, sp. n. (Tab. XXIX. fig. 16.)

Primaries pale reddish-fawn-colour, darkest near the apex and along the outer margin, with a faint submarginal line extending from the apex to near the anal angle, a large black spot on the inner margin near the base, the spot extending across the wing almost to the costal margin and edged on the outer side with

a pale line, and a minute black dot at the end of the cell, the fringe the same colour as the wings; secondaries dusky brown, palest at the base; the underside of both wings pale dusky brown: head and thorax pale reddish-fawn-colour, the abdomen dusky brown, the antennæ brown, the legs pale greyish-brown. Expanse $\frac{3}{4}$ inch.

Hab. MEXICO, Presidio (*Forrer*).

Two specimens of this little species were sent; one of them is considerably darker in colour than the other, though otherwise agreeing with it. *T. hirasa* is allied to *T. idicra*, from which it differs not only in colour but in having the dark spot on the primaries differently shaped.

4. **Thalpochares hippotes,** sp. n. (Tab. XXIX. fig. 17.)

Primaries dull brown, darkest at the apex and along the outer margin, crossed from the costal to the inner margin by a wide reddish-brown band edged with a white line on each side, the band itself having on the outer side at about the middle a minute white spot; secondaries dark blackish-brown; the fringe of both wings dark brown; the underside pale brown, that of the secondaries the palest: head, thorax, abdomen, antennæ, and legs brown. Expanse $\frac{3}{4}$ inch.

Hab. MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen of this very distinct species was captured by our collector in August 1888.

5. **Thalpochares bias,** sp. n. (Tab. XXIX. fig. 18.)

Primaries uniformly reddish-fawn-colour, with an indistinct brown mark on the costal margin about the middle, a faint line crossing the wing from near the apex to the middle of the inner margin; secondaries blackish-brown: head, thorax, and abdomen brown; the antennæ dark brown; the legs pale brown. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

A very dull-coloured species, not closely allied to any known to us.

6. **Thalpochares hippotamada,** sp. n. (Tab. XXIX. fig. 19.)

Primaries uniformly dark silky brown, slightly reddish along the inner margin, a very indistinct dark line crossing the wing from near the apex to the inner margin; secondaries dark brown, palest at the base and along the inner margin; the underside of both wings uniformly dull brown: head, thorax, abdomen, antennæ, and legs brown. Expanse $\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo and Panima in Vera Paz, San Isidro 1600 feet (*Champion*).

It is possible that this insect may be a very dark form of *T. bias*; but I have seen a good many specimens of each, and they do not show any variation.

XANTHOPTERA.

Xanthoptera, Guénée, Sp. gén. des Lép. vi. p. 240 (1852); Walker, Cat. xii. p. 818.

Walker, in his Catalogue, includes six species in this genus, all from North or South America; and others have since been described by various authors. Several of the species are of very doubtful value. One only is known to us from Central America.

1. Xanthoptera nigrofimbria.

Xanthoptera nigrofimbria, Guén. Sp. gén. des Lép. vi. p. 241, Noct. t. 10. f. 12[1]; Walk. Cat. xii. p. 818[2]; Grote, List of North-American Moths, p. 38 (1882)[3].

? *Xanthodes parvula*, Walk. Cat. xxxiii. p. 779.

Hab. North America[1 2 3], Florida (*Morrison*).—Mexico, Presidio (*Forrer*), Rincon in Guerrero 2800 feet, Teapa in Tabasco (*H. H. Smith*), Atoyac in Vera Cruz (*Schumann*); Guatemala, San Gerónimo (*Champion*); Panama, Volcan de Chiriqui (*Ribbe*), Caldera 1200 feet (*Champion*).—Brazil, S. Paulo.

This species varies from a pale straw-colour to deep yellow, and the dark outer margin of the primaries is in some specimens broad and in others almost wanting.

X. nigrofimbria appears to be common in Mexico and Guatemala, both Messrs. Champion and Smith having captured a good series of specimens. Mr. Smith's examples were obtained between the months of January and March. I believe that *Xanthodes parvula*, Walk., the locality for which was unknown to its describer, is the same species.

Subfam. *PALINDIINÆ*.

CALYDIA.

Phrygionis, Hübner, Verz. bek. Schmett. p. 307 (1816) (pars).
Calydia, Bar, Ann. Soc. Ent. Fr. 1875, p. 291.

The broader, shorter, and more rounded wings chiefly distinguish this genus from *Palindia*, to which it is very closely allied. Two species from Guiana were included in it by Bar; and *Phrygionis metalligera*, Butl., is doubtless congeneric with these. A fourth species is now added from Chiriqui. The name *Calydia* is here adopted in preference to *Phrygionis*, as two of the three species placed under that name by Hübner belong to distinct genera.

1. Calydia metalligera.

Phrygionis metalligera, Butl. Trans. Ent. Soc. Lond. 1879, p. 32[1].

Hab. Guatemala, Volcan de Atitlan 2500 to 3500 feet, Zapote (*Champion*); Panama, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—Amazons[1].

Our specimens from Guatemala agree well with the type in the National Collection. The insect is allied to *C. bourgaulti*, Bar, but is much paler in colour.

2. Calydia hemithea, sp. n. (Tab. XXIX. fig. 20.)

Primaries pale brown, with a curved reddish-brown line beyond the cell and three curved metallic lines crossing the wing from near the costal to the inner margin, the costal margin yellowish with minute streaks of dark brown; secondaries pale brown, slightly yellowish at the base and along the inner margin, with several indistinct brown lines and some metallic spots and streaks at the anal angle; the underside of

both wings dark brown, the fringe brown: head, thorax, and abdomen pale brown; the antennæ and legs brown. Expanse $1\frac{1}{10}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

This species differs from *C. metalligera* in having the markings of the primaries much darker in colour. Two specimens are contained in Dr. Staudinger's collection.

PALINDIA.

Palindia, Guénée, Sp. gén. des Lép. vi. p. 274 (1852); Walker, Cat. xii. p. 844; Bar, Ann. Soc. Ent. Fr. 1875, p. 294.

Numerous species of this genus have been described, nearly all from Tropical America; thirteen are here enumerated from within the limits of our fauna.

1. Palindia dives.

Phrygionis dives, Butl. Trans. Ent. Soc. Lond. 1879, p. 30 [1].

Hab. COSTA RICA, San Francisco 4500 feet (*Rogers*).—AMAZONS, Rio Juruá [1].

One specimen only of this beautiful insect was captured by Rogers. The species is allied to *P. corinna* (Cram.), and *P. stella*, Bar.

2. Palindia corineta.

Palindia corineta, Feld. & Rogenh. Reise der Novara, Lep. t. 111. f. 2, Erkl. der Taf. 111. no. 2 [1].

Palindia lucia, Bar, Ann. Soc. Ent. Fr. 1875, p. 300, t. 5. f. 7 [2].

Hab. GUATEMALA, San Gerónimo (*Champion*).—GUIANA [2]; BRAZIL [1]; AMAZONS [1].

One specimen only has been received from Guatemala, and this agrees well with Felder's figure of *P. corineta*. The insect described by Bar is no doubt the same species.

3. Palindia thecloides.

Palindia thecloides, Walk. Cat. xii. p. 851 [1].

Eulepidotis thecloides, Butl. Trans. Ent. Soc. Lond. 1879, p. 29 [2].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); HONDURAS [1].—AMAZONS [2].

The single specimen sent from Guatemala by Mr. Champion closely resembles Walker's type in the National Collection.

4. Palindia mabis.

Palindia mabis, Guén. Sp. gén. des Lép. vi. p. 277 [1]; Walk. Cat. xii. p. 850 [2].

Eulepidotis mabis, Butl. Trans. Ent. Soc. Lond. 1879, p. 29 [3].

Palindia fumata, Feld. & Rogenh. Reise der Novara, Lep. t. 111. f. 17, Erkl. der Taf. 111. no. 17 [4].

Hab. MEXICO, Acapulco, San Blas (*J. J. Walker*).—VENEZUELA [2]; BRAZIL [1]; AMAZONS [3 4], Ega [2].

The only specimens I have seen of this species from our country are those collected by Mr. J. J. Walker, R.N., late of H.M.S. 'Kingfisher.'

5. **Palindia mustela,** sp. n. (Tab. XXIX. fig. 21.)

Primaries pale brownish-fawn-colour, dark brown (in some lights appearing to be shot with purple) along the costal margin, and this colour extending across the wing towards the middle, with three narrow yellowish-brown lines crossing the wing from the costal to the inner margin, a large almost black spot close to the base, and a submarginal row of black dots extending from the costal margin close to the apex to the anal angle, the fringe brown with several black patches on the outer margin near the apex; secondaries pale silky brown, becoming yellowish at the apex and on the outer margin, an indistinct metallic streak and a purplish spot near the anal angle, above which are two small black spots; the underside of both wings pale brown, that of the secondaries with two faint lines crossing from the costal to the inner margin: head, thorax, and tegulæ pale yellowish-brown; abdomen pale brown, much paler beneath; legs greyish-brown; antennæ and palpi dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Atoyac in Vera Cruz (*Schumann*).

A very distinct species, quite different in colour and markings from any known to me.

6. **Palindia juncida.**

Palindia juncida, Guén. Sp. gén. des Lép. vi. p. 277[1]; Walk. Cat. xii. p. 849[2]; Druce, P. Z. S. 1884, p. 323[3].

Palindia addens, Walk. Cat. xv. p. 1768[4].

Palindia aglauda, Bar, Ann. Soc. Ent. Fr. 1876, p. 7, t. 1. ff. 10, 11[5].

Hab. MEXICO, State of Durango (*Forrer*), Atoyac in Vera Cruz (*H. H. Smith*, May 1888); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*), Panama city (*J. J. Walker*).—COLOMBIA[1 2]; GUIANA[5]; BRAZIL[2]; UPPER AMAZONS; ANTILLES, Dominica[3], San Domingo[4].

This species varies considerably, the wings in some specimens being of a pale primrose and in others of a dusky brown tint; but in no one locality, so far as I can judge from the material before me, is any form of colour at all constant. The specimens from Central America are as variable as those from South Brazil.

The insect figured by Bar (Ann. Soc. Ent. Fr. 1876, t. 1. f. 11) closely resembles *P. addens*, Walk.; the latter is not distinct from *P. juncida*.

7. **Palindia rectimargo.**

Palindia rectimargo, Guén. Sp. gén. des Lép. vi. p. 276[1]; Walk. Cat. xii. p. 847[2]; Herr.-Schäffer, Corr. Blatt. zool.-min. Ver. Regensb. 1869, p. 153 (sep. copy, p. 25)[3]; Bar, Ann. Soc. Ent. Fr. 1876, p. 8[4].

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*, March 1888).—VENEZUELA[2]; GUIANA[4]; PERU; BRAZIL; URUGUAY, Monte Video[1 4]; ANTILLES, Cuba[3].

8. **Palindia candida.**

Palindia candida, Bar, Ann. Soc. Ent. Fr. 1876, p. 8, t. 1. f. 13[1].

Hab. MEXICO, Cordova (*Rümeli*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA (*Van Patten*), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA; GUIANA [1]; PERU.

This species appears to be common in Guatemala and Costa Rica.

9. **Palindia punctangulata.**

Palindia punctangulata, Walk. Cat. xii. p. 848 [1]; xxxiii. p. 806 [2].

Palindia pulchella, Bar, Ann. Soc. Ent. Fr. 1876, p. 245, t. 5. f. 17 [3].

Hab. PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).—GUIANA [3]; AMAZONS [1], Pará [2], Tapajos [2].

Two specimens of this species were obtained by Mr. Champion on the Volcano of Chiriqui; they agree with Walker's type in the late Mr. Saunders's collection now in the Oxford Museum.

The insect is very closely allied to *P. alabastraria* (Hübn.), and may prove to be not really distinct from it.

10. **Palindia micca,** sp. n. (Tab. XXIX. fig. 22.)

Primaries pale primrose-colour, the costal margin white from the base to near the apex, with three indistinct narrow lines of a darker colour, the third edged with a metallic line, crossing the wing from the costal to the inner margin, the outer margin from the apex to the anal angle shaded with brown; secondaries pale primrose-colour, darkest about the middle, with a large bluish-grey spot, and above this a narrow brown line, about the middle of the outer margin; the fringe of both wings brownish; the underside silky white, with a faint yellowish tinge: head, antennæ, and collar greyish-black; the thorax, tegulæ, and abdomen above pale primrose-colour, beneath white; legs yellowish-white. Expanse $1\frac{3}{10}$ inch.

Hab. PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).—COLOMBIA, interior (*Wheeler, mus. D.*).

This species is allied to *P. punctangulata*, from which it may be distinguished by its pale primrose-colour.

11. **Palindia perducens.**

Palindia perducens, Walk. Cat. xv. p. 1767 [1].

Hab. GUATEMALA, San Isidro 1600 feet (*Champion*); PANAMA, Volcan de Chiriqui (*Trötsch, mus. Staudinger*).—COLOMBIA; ECUADOR; ANTILLES, Jamaica [1].

We have only seen two specimens of this species from Central America, one of these being contained in Dr. Staudinger's collection. The type in the National Collection is very much faded.

12. **Palindia spectabilis.**

Palindia spectabilis, Walk. Cat. xv. p. 1767 [1].

Eulepidotis spectabilis, Butl. Trans. Ent. Soc. Lond. 1879, p. 29 [2].
Palindia guttata, Feld. & Rogenh. Reise der Novara, Lep. t. 111. f. 3, Erkl. der Taf. 111. no. 3 [3].

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet, David (*Champion*).—AMAZONS [1 2 3].

Our specimens from Costa Rica and the State of Panama agree perfectly with Walker's type in the Oxford Museum, and I have not the slightest doubt that *P. guttata* is the same species.

13. **Palindia deva,** sp. n. (Tab. XXIX. fig. 23.)

Primaries dark brown, darkest along the outer margin, with three darker brown bands crossing the wing from the costal to the inner margin (the first near the base and in the form of a curved line, the second about the middle, reddish-brown, edged with a narrow black line on each side, the third beyond the middle, edged with black on the inner side, and with a metallic line on the outer side), and two minute black dots at the end of the cell, the marginal line dark brown, the fringe brown; secondaries brown, broadly bordered with black on the costal margin from the base to the apex, a brown line crossing the wing from the inner margin just above the anal angle to the black border on the costal margin, the outer part of the wing reddish-brown with a metallic blue spot irrorated with white scales, the marginal line black edged with white, the fringe brown; the underside dark brown, palest near the base, both wings crossed by two indistinct brown lines: head, thorax, and abdomen dark brown above, considerably paler beneath, the anal tuft yellowish; the antennæ dark brown; the legs pale brown. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Cuesta de Misantla (*M. Trujillo*), Coatepec (*Brooks*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

This fine species appears to be not uncommon in Mexico; from Chiriqui we have only seen one example. It is most nearly allied to *P. egista* (Bar) from Guiana.

A Mexican specimen is figured.

Subfam. *DYOPSINÆ.*

DYOMYX.

Dyomyx, Guénée, Sp. gén. des Lép. vi. p. 281 (1852); Walker, Cat. xii. p. 853.
Dyomix, Bar, Ann. Soc. Ent. Fr. 1876, p. 436 (pars).

Walker, in his Catalogue, included four species in this genus, and Bar has described several others; some of these latter would, I think, be better placed in *Palindia.* All the known species are from Tropical America; one only, as yet, has been received from our region.

1. **Dyomyx lineata,** sp. n. (Tab. XXIX. figg. 24 ♂, 25 ♀.)

Male. Primaries brown, crossed from the costal margin by four brown lines, the second line only reaching the inner margin, where it is edged on the outer side with yellow, with two pale streaks at the end of the cell, an indistinct pale submarginal band extending from the costal margin near the apex to the anal angle, and a large yellow-bordered black ocellus with a minute white dot in the middle on the inner margin near the anal angle, the space between the ocellus and the outer margin irrorated with minute metallic lead-coloured scales; secondaries dark brown, darkest along the costal margin and at the apex,

with a dark brown band edged with yellowish-brown crossing from the inner margin above the anal angle towards the outer margin and then extending upwards to near the costal margin, an elongate metallic lead-coloured patch between the band and the outer margin, a small black orange-bordered spot (on the inner side of which is a small white streak) about the middle of the outer margin, and a narrow yellowish-brown submarginal line; the underside of both wings uniformly pale brown, crossed beyond the middle by a waved darker brown line, the fringe pale brown: head, thorax, and abdomen dark brown; the collar and tegulæ yellowish-brown; antennæ, palpi, and legs pale brown. The female differs from the male in the following particulars:—The primaries are paler and of a more yellowish colour, with the bands broader and darker, the second and third reaching the inner margin, and the ocellus entirely wanting; the secondaries have the metallic lead-coloured patch considerably smaller, and also a faint indication of a second brown band; and the fringe of both wings is pale yellowish-brown. Expanse, ♂ ♀, $2\frac{1}{5}$ inches.

Hab. GUATEMALA, Coatepeque, Las Mercedes 3000 feet (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Ribbe, mus. Staudinger*).—AMAZONS, Pará.

This fine species is allied to *D. megalops*, Guén., specimens of which are contained in the National Collection, but can at once be distinguished from it by the entire absence of the purple colour on the primaries. *D. lineata* is also allied to *D. egistoides*, Bar, from which it differs in having the bands on both wings differently placed, and also in its larger size.

DYOPS.

Dyops Groupe i., Guénée, Sp. gén. des Lép. vi. p. 283 (1852); Walker, Cat. xii. p. 854.

This genus contains a few species, all American, the genus ranging from the Amazons to California, and also extending to the Antilles.

1. **Dyops ocellata.**

Phalæna ocellata, Cram. Pap. Exot. iii. p. 151, t. 276. f. E (non D)[1].

Dyops ocellata, Guén. Sp. gén. des Lép. vi. p. 283, Noct. t. 11. f. 3[2]; Walk. Cat. xii. p. 855[3]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 188 (sep. copy, p. 26)[4]; Butl. Trans. Ent. Soc. Lond. 1879, p. 33[5].

Dyops pupillata, Feld. & Rogenh. Reise der Novara, Lep. t. 111. f. 21, Erkl. der Taf. 111. no. 21[6].

Hab. NORTH AMERICA, California (*Boucard, mus. D.*).—MEXICO, Jalapa (*Höge*); PANAMA, Volcan de Chiriqui (*Arcé, mus. D.*).—GUIANA, Surinam[1 2 3 6]; BRAZIL[2 3]; AMAZONS[5]; ANTILLES, Cuba[4].

This species varies considerably in colour, but I have not seen any specimen so green as represented by Guénée. The female example before me from the Volcan de Chiriqui is almost identical with Felder's figure.

2. **Dyops juba,** sp. n. (Tab. XXIX. fig. 26.)

Primaries dark brown, crossed from the costal to the inner margin by very narrow black lines, which are joined together by short transverse lines and form quite a network beyond the middle, and with a bluish-grey band nearer the outer margin extending from near the costal to the inner margin, and a large yellowish-brown spot marked with minute black and grey dots in the middle at the end of the cell, the

fringe dark brown; secondaries uniform dark brown, with an indistinct greyish spot at the anal angle; the underside of both wings dark brown, crossed by a broken band of darker brown markings: head, thorax, antennæ, and abdomen dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Chiriqui (*Arcé, mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A very distinct species.

3. **Dyops phila,** sp. n. (Tab. XXIX. fig. 27.)

Primaries dark brown, shaded with reddish-brown near the base and about the middle, with two white waved lines crossing near the base from the costal to the inner margin, a double waved white submarginal band extending from the costal to the inner margin, and a row of minute white marginal dots extending from the apex to the anal angle, most of the veins white, the fringe dark and light brown; secondaries dark brown, palest at the base and along the inner margin, the marginal line black with minute white dots, the fringe dark brown: head, thorax, abdomen, and legs dark brown; the underside of the head, thorax, and legs yellowish-brown. Expanse 2 inches.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Arcé, mus. D.*; *Ribbe, mus. Staudinger*).

4. **Dyops minthe,** sp. n. (Tab. XXIX. fig. 28.)

Primaries dark brown, darkest at the base and along the inner margin, with two waved dark brown lines crossing from the costal to the inner margin, a wide submarginal waved white band extending from the apex to the inner margin close to the anal angle, and about the middle of the band a dark brown spot, the outer margin brown; secondaries silky brown, palest at the anal angle and round the outer margin, a minute black dot at the anal angle: head, thorax, abdomen, and antennæ brown; the legs pale brown. Expanse $1\frac{3}{5}$ inch.

Hab. PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*; *Ribbe, in mus. Staudinger*).—BRAZIL, S. Paulo.

This species is allied to *D. phila*, from which it chiefly differs in the wide white submarginal band of the primaries. In a variety in Dr. Staudinger's collection the white band is almost obsolete. The example from Brazil in my own collection is altogether duller in colour than those from Central America. Our figure is taken from a typical specimen in Dr. Staudinger's collection.

LITOPROSOPUS.

Dyops Groupe ii., Guénée, Sp. gén. des Lép. vi. p. 284 (1852).

Litoprosopus, Grote, Trans. Am. Ent. Soc. ii. p. 309 (1869); List of North-American Moths, p. 33 (1882).

Grote refers three species to this genus: *Noctua hatuey*, Poey, from Cuba; *Dyops confligens*, Walk., from Honduras and the West coast of America; and *Dyops futilis*, Grote and Robinson, from Florida. The two first named are, I have no doubt, one and the same species; and it is extremely doubtful if the third is distinct, as specimens of it lately received from Mr. H. Edwards, from Florida, apparently only differ from *L. hatuey* in their rather smaller size.

1. Litoprosopus hatuey.

Noctua hatuey, Poey, Cent. Lép. Cuba, decade 1, tab. (1832) [1].
Dyops hatuey, Guén. Sp. gén. des Lép. vi. p. 284 [2]; Walk. Cat. xii. p. 855 [3].
Litoprosopus hatuey, Grote, Trans. Am. Ent. Soc. ii. p. 309 [4].
Dyops hautuey, Herr.-Schäff. Corr.-Blatt zool-min. Ver. Regensb. 1868, p. 188 (sep. copy, p. 26)[5].
Dyops confligens, Walk. Cat. xii. p. 856 [6].
Litoprosopus confligens, Grote, List of North-American Moths, p. 33 (1882)[7].

Hab. North America [7].—Mexico, Misantla (*F. D. G.*, March 1888), Cuesta de Misantla (*M. Trujillo*), Coatepec (*Brooks*), Jalapa (*Höge*), Cordova (*Rümeli*); British Honduras (*Blancaneaux*); Guatemala, Las Mercedes 3000 feet (*Champion*); Honduras [2 3 6]; Panama, Volcan de Chiriqui 3000 feet (*Champion, Arcé, Ribbe*).—West Coast of America [6]; Antilles, Cuba [1 2 3 5], San Domingo [3].

Specimens before me from Cuba agree perfectly with those from the other above-mentioned localities. *D. confligens*, Walk., cannot be separated from the species described by Poey; Grote [4] has recorded his opinion that *Noctua hatuey*, Poey, and *Dyops hatuey*, Guén., are distinct species, but for what reason I know not.

Subfam. *ERIOPINÆ*.

CALLOPISTRIA.

Callopistria, Hübner, Verz. bek. Schmett. p. 216 (1816); Walker, Cat. xii. p. 861.
Eriopus, Treitschke, Schmett. Europ. v. 1, p. 365 (1825); Guénée, Sp. gén. des Lép. vi. p. 291.

This genus is represented in our country by three species, all of them being rare.

1. Callopistria floridensis.

Eriopus floridensis, Guén. Sp. gén. des Lép. vi. p. 292 [1]; Möschler, Beitr. Schmett.-Fauna von Jamaica, p. 52 [2].
Callopistria floridensis, Walk. Cat. xii. p. 862 [3].

Hab. North America, Florida [1 3].—Guatemala, San Isidro 1600 feet (*Champion*); Panama (*mus. Staudinger*).—Brazil [3], Rio Janeiro; Antilles, Jamaica [2], Dominica.

Specimens from Guatemala agree perfectly with others from Rio Janeiro in my collection; but one from Dominica, captured by the late Mr. Angus, is darker than any of them.

2. Callopistria mexicana, sp. n. (Tab. XXX. fig. 1.)

Primaries reddish-brown, crossed by many faint lines, with a marginal row of black dots, edged with white on the inner side, and a small white elongate spot at the end of the cell, the outer margin bordered from the apex to the anal angle with purplish-white, the fringe reddish-brown; secondaries dark brown, palest at the base, the fringe pale brown: head, thorax, and tegulæ reddish-brown; abdomen dark brown, paler beneath, the anal tuft yellowish; legs brown. Expanse $1\frac{1}{10}$ inch.

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*, Feb. 1888).

A single example.

3. **Callopistria panamensis,** sp. n. (Tab. XXX. fig. 2.)

Primaries dark brown, thickly streaked with pale markings; secondaries dark brown, palest at the base and along the inner margin, the fringe pale fawn-colour: head, thorax, and abdomen pale brown, the legs greyish, the antennæ brown. Expanse 1½ inch.

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

A single example only, kindly communicated by Dr. Staudinger.

The intricate markings of the primaries somewhat resemble those of *C. recurvata*, Moore; it is impossible to describe them, and they will be best understood from our figure.

Subfam. *EURHIPINÆ.*

PENICILLARIA.

Penicillaria, Guénée, Sp. gén. des Lép. vi. p. 302 (1852); Walker, Cat. xii. p. 870.

Walker included a good many species in this genus, these being chiefly from the tropical regions of the Old or New World; from Central America we have as yet only received two, both of which are known from more southern localities.

1. **Penicillaria abscondens.** (Tab. XXX. fig. 3.)

Penicillaria abscondens, Walk. Cat. xv. p. 1774 [1].

Hab. COSTA RICA (*mus. Staudinger*).—COLOMBIA, Bogota [1].

Dr. Staudinger's specimen from Costa Rica agrees with Walker's type in the Saunders collection, now in the Oxford Museum.

2. **Penicillaria auratrix.**

Penicillaria (?) *auratrix,* Walk. Cat. xv. p. 1775 [1].

Hab. MEXICO, Atoyac in Vera Cruz (*Schumann*); GUATEMALA, San Gerónimo, San Isidro 1600 feet (*Champion*).—COLOMBIA, Bogota; AMAZONS, Ega [1].

Of this species we have only received three specimens from Central America; they are rather duller in colour than others from Bogota in my own collection.

DYSODIA.

Dysodia, Clemens, Proc. Acad. Phil. xii. p. 349 (1860).

Platythyris, Grote & Robinson, Ann. Lyceum New York, viii. p. 361 (1866); Grote, List of North-American Moths, p. 13 (1882).

Varnia, Walker, Journ. Linn. Soc., Zool. vii. p. 69 (1864); Cat. xxxiii. p. 825 (1865) (pars).

A single species only, *D. oculatana,* Clem., was included in the genus *Dysodia* by its author; and as the type of *Platythyris, P. fasciata,* Grote and Robinson, belongs to the same species, under which indeed it is placed in Grote's Catalogue, it is clear that the generic name *Dysodia* must stand.

Grote and Robinson refer *Platythyris* to the Thyridæ, but it seems to me to be better placed in the Eurhipinæ.

Species of this genus are very widely distributed in the Old and New World; five are now enumerated from within the limits of our fauna, four of these being described as new.

1. **Dysodia sica,** sp. n. (Tab. XXX. fig. 4.)

Primaries yellowish-olive colour, with three whitish spots on the costal margin, and four distinct brown lines crossing from the costal to the inner margin, the wing also crossed by many very minute brown lines, the fringe dark brown; secondaries the same colour as the primaries, crossed in the middle by a brown line, the fringe whitish near the anal angle; the underside paler than the upperside, with the apex of the primaries much browner: head, thorax, and abdomen yellowish-olive colour, the antennæ brown, the palpi and legs yellowish-brown. Expanse $1\frac{3}{10}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*, Feb. 1888).

Mr. Smith captured a fair series of this insect; it does not show any variation.

2. **Dysodia nipsa,** sp. n. (Tab. XXX. fig. 5.)

Primaries dark reddish-brown, crossed from the costal to the inner margin by four rather wide pale reddish-brown bands; secondaries dark reddish-brown, mottled with paler brown, with an elongate hyaline spot about the middle, but placed rather closer to the costal than to the inner margin; the fringe of both wings brown; the underside paler than the upperside: head, thorax, abdomen, legs, and antennæ reddish-brown. Expanse $1\frac{3}{10}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

Allied to *D.* (*Eutelia*) *fenestrata*, Moore, but entirely different in colour and markings.

3. **Dysodia lusia,** sp. n. (Tab. XXX. fig. 6.)

Primaries reddish-orange, shaded and streaked with brown, with a brown mark at the middle of the costal margin and a brown line near the apex, the other parts of the wing streaked with very minute brown lines; secondaries reddish-orange, shaded with brown along the costal margin and at the apex, and streaked across the wing from the inner margin with brown lines: head, collar, and front of the thorax dark brown, the rest of the thorax and abdomen above reddish-orange, a greyish line crossing the abdomen near the base; the underside of the thorax, abdomen, and legs pale brown; antennæ dark brown. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Bugaba (*Champion*).

Allied to *D. sica*, and also slightly resembling the Indian *D.* (*Varnia*) *ignita*, Walker.

4. **Dysodia lineata,** sp. n. (Tab. XXX. fig. 7.)

Primaries dark olivaceous-brown, crossed about the middle from the costal to the inner margin by two narrow reddish-brown lines, and with three small whitish dots on the costal margin, the fringe dark brown; secondaries similar in colour to the primaries, with a large hyaline spot about the middle, and several very minute dots between the hyaline spot and the inner margin, the fringe greyish: head, thorax, and abdomen dark brown, the anal tuft pale brown; the antennæ and legs dark brown. Expanse $1\frac{1}{10}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*, March 1888).

Allied to *D. nipsa*, but a smaller and darker-coloured insect.

5. **Dysodia oculatana.**

Dysodia oculatana, Clem. Proc. Acad. Phil. xii. p. 350 [1].

Platythyris oculatana, Grote, List of North-American Moths, p. 13 (1882) [2].

Varnia plena, Walk. Cat. xxxiii. p. 826 [3].

Platythyris fasciata, Grote & Robinson, Ann. Lyceum New York, viii. p. 362, t. 13. figg. 4 (♀), 5 (♂) [4].

Hab. North America [1 2 3], Virginia [4].—Guatemala, Panima in Vera Paz (*Champion*); Panama, Volcan de Chiriqui (*Champion*).

This species has been described three times by different authors; Clemens's name has five years' priority over that of Walker, and seven over that of Grote and Robinson.

INGURA.

Ingura, Guénée, Sp. gén. des Lép. vi. p. 309 (1852); Walker, Cat. xii. p. 874.

Walker in his Catalogue includes nine species in this genus, all from North or South America or the Antilles, and a tenth has recently been described by Möschler from Jamaica; three are known to us from Central America.

The genus *Orthoclostera*, Butl. (Trans. Ent. Soc. Lond. 1878, p. 70), based upon a single species, *O. peculiaris*, Butl., from the Rio Negro, and the type of which in the National Collection appears to be considerably distorted in setting, seems to me to be quite inseparable from *Ingura*; in fact, one of our species, *I. murina*, very closely resembles it.

1. **Ingura abrostoloides.**

Ingura abrostoloides, Guén. Sp. gén. des Lép. vi. p. 311 [1]; Walk. Cat. xii. p. 875 [2]; Grote, List of North-American Moths, p. 33 (1882) [3].

Hab. North America [1 2 3].—Costa Rica (*Boucard, in mus. D.*), Rio Sucio (*Rogers*); Panama, Volcan de Chiriqui 4000 to 5000 feet (*Champion*).—Brazil, Rio Janeiro.

A specimen taken at sea off the coast of Panama by Mr. J. J. Walker, R.N., late of H.M.S. 'Kingfisher,' is identical with our Costa Rican and Chiriqui examples.

2. **Ingura lunodes.**

Ingura lunodes, Guén. Sp. gén. des Lép. vi. p. 310 [1]; Walk. Cat. xii. p. 876 [2].

Hab. Honduras [1 2]; Panama, Flamenco I. (*Salvin*).—Guiana, Cayenne [1 2]; Brazil, Rio Janeiro [1 2]; Antilles, Dominica.

I am indebted to Mons. C. Oberthür for the loan of Guénée's type of this species; it is allied to *I. abrostoloides*, but much paler in colour.

3. **Ingura murina**, sp. n. (Tab. XXX. fig. 8.)

Primaries dark purplish-brown, darkest along the costal margin from the base almost to the apex, the inner margin much paler, with a double narrow waved reddish-brown line, crossing from the apex to the inner

margin, and some minute black dots close to the apex, the fringe dark brown; secondaries blackish-brown, palest near the base and along the inner margin, the fringe dark and light brown: head, thorax, and abdomen dark brown, the anal segments blackish, the antennæ and legs dark brown. Expanse $1\frac{1}{4}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota.

Allied to *I. abrostoloides*, from which it may be readily distinguished by the primaries having the costal margin dark brown and being without a pale spot near the base.

I. murina, as already stated, closely resembles *Orthoclostera peculiaris*, Butl. A Guatemalan example is figured.

Subfam. *PLUSIINÆ*.

ABROSTOLA.

Abrostola, Ochsenheimer, Schmett. Europ. iv. p. 88 (1816); Guénée, Sp. gén. des Lép. vi. p. 320; Walker, Cat. xii. p. 880.

The species of this genus are widely distributed over the globe; two only are known to us from Central America.

1. **Abrostola tinctoides.**

Abrostola tinctoides, Guén. Sp. gén. des Lép. vi. p. 323[1]; Walk. Cat. xii. p. 883[2].

Hab. PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL [1] [2].

This insect is only known to me by a specimen so named by Dr. Staudinger.

2. **Abrostola adrana,** sp. n. (Tab. XXX. fig. 9.)

Primaries dark brown, with a large pale yellowish-brown patch on the inner margin extending from near the base to the anal angle, this patch edged on the inner side by a darker brown line which extends along the outer margin to the apex, the discal spot yellowish-brown, the fringe dark brown; secondaries blackish, the fringe white on the outer margin near the anal angle: head, thorax, and abdomen dark brown, the last three segments of the latter, the underside of the thorax, and the legs yellowish-brown, the antennæ dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Valladolid in Yucatan (*Gaumer*).

CALYPTIS.

Calyptis, Guénée, Sp. gén. des Lép. vi. p. 323 (1852); Walker, Cat. xii. pp. 884 & 940.

Guénée founded this genus upon a single species, the exact locality for which was not known, though he supposed it to be from North America; this insect is known to me from Central and South America, but not from north of the State of Panama. I follow Felder in including *Phalæna Noctua idonea*, Cram. [=*Plusia* (?) *semicuprea*, Walk.], in *Calyptis*. Butler refers Walker's species to *Basilodes*.

1. Calyptis iter.

Calyptis iter, Guén. Sp. gén. des Lép. vi. p. 324, Noct. t. 12. f. 3[1]; Walk. Cat. xii. pp. 885[2] & 940[3].

Hab. ? North America[1 2].—Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Colombia, interior (*Wheeler*); Brazil, Rio Janeiro[3]; Amazons, Pará[3].

A Chiriqui specimen of this fine species is contained in Dr. Staudinger's collection. The examples captured by Mr. Wheeler in Colombia closely resemble Guénée's figure, but they have a beautiful bronzy gloss on the primaries.

The locality North America is very doubtful, and the species is not included in Grote's Catalogue.

2. Calyptis idonea.

Phalæna Noctua idonea, Cram. Pap. Exot. iv. p. 43, t. 311. f. A[1].

Calyptis idonea, Feld. Reise der Novara, Lep. t. 110. f. 36, Erkl. der Taf. 110. no. 36[2].

Plusia (?) *semicuprea*, Walk. Cat. xv. p. 1787[3].

Basilodes semicuprea, Butl. Trans. Ent. Soc. Lond. 1879, p. 33[4].

Hab. Panama, Volcan de Chiriqui 3000 to 4000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—Colombia, Bogota; Guiana[2], Surinam[1]; Amazons, Rio Jutahi[4], Manaos.

I have no doubt that the insects described by Cramer and Walker belong to one and the same species, though Cramer's figure is far from good. The series of specimens before me show a slight variation in colour; and the females are larger and paler than the males. Some of the Colombian examples agree perfectly with Felder's figure of *C. idonea*. Walker omitted *Phalæna Noctua idonea*, Cram., from his Catalogue; and the locality for *P. semicuprea* was unknown to him[3].

PLUSIA.

Plusia, Ochsenheimer, Schmett. Europ. iv. p. 89 (1816); Treitschke, Schmett. Europ. v. 3, p. 134; Guénée, Sp. gén. des Lép. vi. p. 324; Walker, Cat. xii. p. 885.

This genus contains a very large number of species, and these are scattered over all parts of the globe. Walker in his Catalogue enumerated one hundred and thirty-one as belonging to it, and many others have since been recorded. In Central America *Plusia* is represented by many known species, and several very distinct new ones are here described.

1. Plusia coronides, sp. n. (Tab. XXX. fig. 10.)

Primaries brilliant metallic golden, with the costal margin from the base to the apex edged with a narrow greyish-white line, a small spot at the end of the cell, and a short streak on the inner margin at the base, pale brown; secondaries uniformly dusky silky-white, the fringe similarly coloured; the underside of the primaries dusky brown, edged along the costal margin and at the apex with yellowish-fawn-colour, that of the secondaries silky-white: head, the front of the thorax, and the base of the tegulæ white, the rest

of the thorax and the tips of the tegulæ dark brown, the upperside of the abdomen golden, the underside of the thorax and of the abdomen white, the antennæ, palpi, and legs pale yellowish-brown. Expanse $1\frac{2}{5}$ inch.

Hab. MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen, captured in August 1888.

2. **Plusia arianda,** sp. n. (Tab. XXX. fig. 11, ♀.)

Primaries brilliant metallic golden, the costal margin edged with pale whitish-fawn-colour, from which two V-shaped marks extend partly across the wing (the first the smallest and nearest the base, the second at the end of the cell), a small fawn-coloured streak on the inner margin close to the base, the fringe golden-brown and pale fawn-colour; secondaries white, dusky at the apex and round the outer margin, the fringe white: head, thorax, and tegulæ pale fawn-colour; the antennæ, abdomen, and legs yellowish-brown. The male only differs from the female in having the secondaries whiter. Expanse, ♂ ♀, $1\frac{2}{5}$ inch.

Hab. NORTH AMERICA, Arizona (*Morrison, in mus. D.*).—MEXICO, Northern Sonora (*Morrison*).

Two examples, a male from Arizona and a female from Northern Sonora. Allied to *P. coronides.*

3. **Plusia smithi,** sp. n. (Tab. XXX. fig. 12, ♀.)

Primaries rich metallic golden, the costal margin from the base to the apex broadly bordered with creamy-white, the outer and inner margins bordered with a fine white line, a white streak extending from the cell to the outer margin, the fringe white; secondaries cream-colour, more dusky in the female than in the male, the fringe white; the underside of both wings dusky white, the costal margin of the primaries tinged with yellow: head, thorax, tegulæ, and the base of the abdomen white, the rest of the abdomen yellowish-white; the antennæ and legs pale fawn-colour. Expanse $1\frac{2}{5}$ inch.

Hab. MEXICO, Tierra Colorada in Guerrero 2000 feet, Teapa in Tabasco (*H. H. Smith*).

I have much pleasure in naming this fine insect after Mr. Smith, who has recently captured examples of four of the finest and most remarkable species yet known of this genus. Our specimens are labelled as having been captured at Teapa in March and at Tierra Colorada in October 1888.

4. **Plusia acantha,** sp. n. (Tab. XXX. fig. 13.)

Primaries rich dark brown, with a large darker brown patch irrorated with metallic golden scales on the inner margin close to the base, a small metallic golden spot at the base nearest the costal margin, and a broad V-shaped mark crossing from about the middle of the costal margin to the anal angle and from the anal angle along the outer margin to the apex, the fringe pale brown; secondaries dark brown, the fringe greyish-brown; the underside of both wings dark brown, the costal margin of the primaries yellowish-brown: head, thorax, tegulæ, and abdomen dark brown, the collar with a few yellowish scales mixed with the dark brown, the palpi and the underside of the head and thorax yellowish-brown, the underside of the abdomen and the anus pale yellowish-brown; the legs brown, the antennæ dark brown. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*, Aug. 1888); GUATEMALA, San Gerónimo (*Champion*).

This very beautiful species is allied to *P. howardi*, Edw.

5. **Plusia acema,** sp. n. (Tab. XXX. fig. 14.)

Primaries golden-brown, palest along the costal margin, a wide metallic golden band extending from the base along the costal margin to the middle and then crossing the wing to the inner margin, the fringe brown; secondaries pale brown, the fringe greyish; the underside of both wings pale brown, the costal margin of the primaries shaded with fawn-colour: head, thorax, and abdomen dark greyish-brown, the anal tuft and the antennæ and legs yellowish-brown. Expanse $1\frac{1}{10}$ inch.

Hab. MEXICO, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*, Oct. 1888).

One specimen. A beautiful and very distinct species.

6. **Plusia (?) argyra,** sp. n. (Tab. XXX. fig. 15.)

Primaries pure white, with a slightly metallic wide bronzy band extending from the base along the inner margin almost to the anal angle and then crossing to the apex, two fine waved black lines crossing the wing on the outer edge of the band from near the apex to the inner margin, and on the inner side of it is another band crossing to the costal margin and then to the base (the latter enclosing an elongate white basal spot), a marginal row of black spots extending from the apex to the anal angle; secondaries silky white, with a marginal row of very minute black dots; the fringe of both wings white; the underside dusky white: head, collar, and tegulæ white, the thorax and the greater part of the abdomen pale brown, the anus white, the basal segment of the abdomen pink, the underside of the thorax, abdomen, and legs white; antennæ pale brown, whitish at the base. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Presidio (*Forrer*), Bolaños in Jalisco (*Richardson*, July 1889).

This species is referred with some doubt to the genus *Plusia*.

7. **Plusia biloba.**

Plusia biloba, Steph. Ill. Brit. Ent., Haust. iii. p. 104; Guén. Sp. gén. des Lép. vi. p. 341, Noct. t. 11. f. 10[1]; Walk. Cat. xii. p. 905[2]; Grote, List of North-American Moths, p. 34 (1882)[3].

Hab. NORTH AMERICA[3], Florida[1 2].—MEXICO, Milpas in Durango 5900 feet (*Forrer*), Cordova (*Rümeli*), Atoyac in Vera Cruz (*Schumann*), Jalapa (*M. Trujillo*).—VENEZUELA; ECUADOR[2]; BRAZIL; CHILI.

Guénée's figure of this species is far too highly coloured. *P. biloba* was described by Stephens from an example supposed to be from Great Britain.

8. **Plusia verruca.**

Noctua verruca, Fabr. Ent. Syst. iii. 2, p. 238.

Plusia verruca, Guén. Sp. gén. des Lép. vi. p. 342[1]; Walk. Cat. xii. p. 906[2]; Herr-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 183 (sep. copy, p. 21)[3]; Grote, List of North-American Moths, p. 34 (1882)[4].

? *Phalæna Noctua oo,* Cram. Pap. Exot. iv. p. 45, t. 311. f. F (? E).

Noctua omega, Hübn. Zutr. Samml. exot. Schmett. ff. 373, 374.

Autographa omicron, Hübn. Verz. bek. Schmett. p. 251.

Plusia quæstionis, Treitschke, Schmett. Europ., Suppl. p. 132.

Hab. NORTH AMERICA[1 4], United States[2].—MEXICO, Ventanas 2000 feet (*Forrer*), Teapa in Tabasco (*H. H. Smith*, Jan. 1888); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*), San Feliz (*Champion*).—COLOMBIA, Bogota[2]; VENEZUELA[2]; GUIANA, Cayenne[1]; BRAZIL[1]; ANTILLES, S. Thomas[1], Cuba[3].

We have only seen four specimens of this species from Central America; the one from San Feliz is much darker in colour than either of the others.

9. **Plusia rogationis.**

Plusia rogationis, Guén. Sp. gén. des Lép. vi. p. 344[1]; Walk. Cat. xii. p. 906[2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 183 (sep. copy, p. 21)[3].

Plusia includens, Walk. Cat. xii. p. 914[4].

Plusia hamifera, Walk. Cat. xii. p. 917[5].

Hab. North America [1 2].—Mexico, Venta de Zopilote and Tierra Colorada in Guerrero 2800 feet, Teapa in Tabasco (*H. H. Smith*), Coatepec (*Brooks*), Jalapa (*Höge*); Guatemala, near the city (*Rodriguez*), Senahu, San Isidro 1600 feet, Cerro Zunil 4000 to 5000 feet (*Champion*); Panama, Volcan de Chiriqui 3000 feet (*Champion*; *Ribbe, mus. Staudinger*).—Colombia [1 2]; Venezuela [5]; Brazil; Amazons, Santarem [5]; Antilles, San Domingo [4], Cuba [3]; Australia [1 2].

This species is common in our region.

Mr. Smith's examples were captured in January, February, and October 1888.

10. **Plusia gamma** *.

Phalæna Noctua gamma, Linn. Syst. Nat. p. 127.

Noctua gamma, Fabr. Sp. Ins. ii. p. 227; Hübn. Europ. Schmett. Noct. t. 58. f. 283.

Autographa gamma, Hübn. Verz. bek. Schmett. p. 251.

Plusia gamma, Guén. Sp. gén. des Lép. vi. p. 348[1]; Walk. Cat. xii. p. 898[2]; Möschler, Verh. zool.-bot. Ges. Wien, xxxiv. p. 295, note[3].

Hab. North America [1 2].—Mexico, Huahuapan, Puebla (*Hedemann* [3]).—Europe [1 3]; Central Asia [3]; South Africa [2].

This species, which is one of the most widely distributed and best known of all the Noctuidæ, has been recorded by Möschler from Mexico; but we have not received a specimen of it from any part of Central America, and it is inserted here solely on Möschler's authority [3]. It is not included by Grote in his Check-list of North-American Moths.

11. **Plusia ou.**

Plusia ou, Guén. Sp. gén. des Lép. vi. p. 348[1]; Walk. Cat. xii. p. 907[2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 183 (sep. copy, p. 21)[3]; Grote, List of North-American Moths, p. 34 (1882)[4].

Hab. North America [1 4], East Florida [2].—Mexico, Cuernavaca in Morelos (*H. H. Smith*), Atoyac in Vera Cruz (*Schumann*), Cuesta de Misantla (*M. Trujillo*), Orizaba (*F. D. G., H. H. Smith*), Mexico city, Jalapa (*Höge*); Guatemala, Cerro Zunil 4000 to 5000 feet (*Champion*); Costa Rica, Rio Sucio (*Rogers*); Panama, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—Venezuela [2]; Antilles, Cuba [3].

* For full synonymy see Walker's Catalogue (*op. cit.*).

This species is common in Mexico, but becomes rarer southwards. From the State of Panama we have only seen a single specimen.

Mr. Smith's examples were captured in the months of June and December.

12. **Plusia parallela.**

Plusia parallela, Walk. Cat. xii. p. 918 [1].

Hab. MEXICO, Jalapa (*Höge*), Teapa in Tabasco (*H. H. Smith*, Feb. 1888); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—VENEZUELA [1].

Central-American specimens agree perfectly with Walker's type in the National Collection.

13. **Plusia basigera.**

Plusia basigera, Walk. Cat. xxxiii. p. 836 [1].

Hab. NORTH AMERICA [1].—MEXICO, near the city (*Höge*).

We have received one specimen of this species from Mexico; it is identical with Walker's type in the National Collection. *P. basigera* is omitted from Grote's Check-list of North-American Moths.

14. **Plusia egena.**

Plusia egena, Guén. Sp. gén. des Lép. vi. p. 328 [1]; Walk. Cat. xii. p. 914 [2].

Hab. MEXICO, Jalapa (*Höge*), Coatepec (*Brooks*); GUATEMALA, Cerro Zunil 4000 feet (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA [1], Bogota [2]; VENEZUELA [2]; BRAZIL [1], Rio Janeiro [2]; ANTILLES, San Domingo [2].

Specimens of this species from Rio Janeiro are rather duller in colour than those from Central America.

15. **Plusia abeona,** sp. n. (Tab. XXX. fig. 16.)

Primaries pale brown, crossed from the apex to the inner margin near the anal angle by a pale whitish-brown line, with a pale line near the base crossing from the inner to near the costal margin, but not reaching it, and a large copper-coloured patch extending from the apex along the outer margin to near the anal angle, the fringe brown; secondaries pale brown, almost whitish-hyaline at the base, the fringe pale greyish-brown: head, thorax, and abdomen pale brown, the antennæ and legs pale brown. Expanse $1\frac{3}{5}$ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—CUBA, San Cristobal (*Boucard, mus. D.*).

It is possible that this may be the same species as *P. egenella*, Herr.-Schäff.; but as it does not agree with the description, I have thought it better to describe it.

16. **Plusia longicornis,** sp. n. (Tab. XXX. fig. 17.)

Primaries dark silky brown, shaded with darker brown, crossed beyond the middle from the costal to the inner margin by a waved dark brown line, on the outer side of which is a dark band extending from the apex to the inner margin close to the anal angle, a dark brown patch about the middle nearest the inner

margin, the metallic spots the same as in *P. rogationis*, but rather smaller, the fringe dark brown; secondaries dark brown, with the fringe paler in colour; the underside of both wings silky brown: head, thorax, and abdomen brown, the legs pale brown, the palpi brown; the antennæ brown, and as long as the primaries. Expanse $1\frac{3}{5}$ inch.

Hab. PANAMA, Volcan de Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*).—ECUADOR, Sarayacu (*Buckley*).

This species is distinguished from all others of the genus by the antennæ being as long as the primaries. Ecuador specimens do not differ from those from Central America.

17. **Plusia abrota,** sp. n. (Tab. XXX. fig. 19.)

Primaries dark brown, the costal margin banded with short brown markings, with a pale waved brown band crossing from the costal margin near the apex to the inner margin, a wide metallic golden-brown streak from the base below the cell, on the upperside edged with a very fine white line, and a wide metallic golden-brown submarginal line extending from the apex almost to the anal angle, the fringe dark brown; secondaries blackish-brown, palest at the base, the fringe pale greyish-brown: head, thorax, and abdomen dark brown, the hairs at the base of the thorax golden-brown; the antennæ and legs brown. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalapa (*F. D. G.*), Coatepec (*Brooks*).

A fine distinct species. The specimen captured by Mr. Godman is figured.

THYRIA.

Thyria, Guénée, Sp. gén. des Lép. vi. p. 357 (1852); Walker, Cat. xii. p. 934.

Four species were placed in *Thyria* by Walker, all from Tropical America: two of these, I believe, are conspecific, and one is referable to another genus.

1. **Thyria ditissima.**

Thyria ditissima, Walk. Cat. xii. p. 935 [1].

? *Thyria aurifundens,* Walk. Cat. xv. p. 1788 [2].

Thyria fulgida, Feld. & Rogenh. Reise der Novara, Lep. t. 110. f. 37, Erkl. der Taf. 110. no. 37 [3].

Hab. MEXICO, Jalapa (*Höge*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*; *Ribbe, in mus. Staudinger*).—COLOMBIA, Antioquia; GUIANA [3]; ECUADOR; BRAZIL, Rio Janeiro [2]; AMAZONS, Pará [1].

This insect may not really be distinct from *T. amœnita* (Cram.); but the latter, according to Cramer's figure, has the secondaries clouded almost to the base with yellowish-brown. I believe *T. aurifundens*, Walk., to be the same species.

Subfam. *CALPINÆ.*

DIAMUNA.

Diamuna, Walker, Cat. xii. p. 960 (1857).

Walker included in this genus one species only, *Phalæna* (*Noctua*) *severa*, Cram.,

from Guiana. In Central America *Diamuna* is represented by four species, all of which are here described as new.

1. **Diamuna longipes,** sp. n. (Tab. XXX. fig. 18.)

Primaries greyish-brown, with some pale greyish streaks near the apex on the costal margin, a wide greyish-brown band edged with dark brown lines extending from near the base on the inner margin to the anal angle, and then along the outer margin to the apex, the marginal line dark brown, the fringe pale brown; secondaries bright orange, broadly bordered from the apex to the anal angle with brownish-black, the fringe greyish-brown; the underside of both wings pale yellow, broadly bordered with reddish-brown, a reddish-brown spot at the end of the cell of both wings, the costal margin of the primaries irrorated with reddish-brown scales: head, thorax, and abdomen reddish-brown, the abdomen with a wide central black band extending from the base to the anus; the antennæ, palpi, and legs brown. Expanse $2\frac{1}{2}$ inches.

Hab. MEXICO, Jalapa (*Höge*).

One specimen.

2. **Diamuna adrasta,** sp. n. (Tab. XXX. fig. 20.)

Primaries dark reddish-brown, thickly irrorated with minute metallic lead-coloured scales, a pale yellowish-brown band extending from near the apex to the inner margin slightly above the anal angle, the apex and fringe blackish; secondaries bright orange-yellow, broadly bordered with deep black from the costal margin to the inner margin near the anal angle, the fringe black; the underside of the primaries deep black, with the base and a wide band beyond the middle bright orange, that of the secondaries as above: head, thorax, abdomen, legs, and antennæ deep black, the tegulæ black with the base orange. The female with the black margin of the secondaries considerably wider than in the male. Expanse, ♂ $1\frac{3}{4}$ inch, ♀ 2 inches.

Hab. MEXICO, Patzcuaro (*F. D. G.*), Amula in Guerrero 6000 feet (*H. H. Smith*, Aug. 1888), Jalapa (*Höge*), Orizaba (*Elwes*, March 1888).

This fine species appears to be widely distributed and fairly common in Mexico. The specimens from Jalapa and Orizaba are smaller than those from the other localities.

3. **Diamuna ædessa,** sp. n. (Tab. XXX. figg. 21, 22.)

Primaries brown, with a waved submarginal line crossing the wing from the costal margin near the apex to the inner margin, a round spot in the cell, and an elongate spot at the end of the cell, all dark brown, a large brownish-white patch beyond the cell on the costal margin, but not extending more than halfway across the wing; secondaries bright chrome-yellow, bordered with black, more broadly so at the apex; the underside of the primaries black, crossed beyond the middle from the costal margin to the anal angle with a wide yellow band, that of the secondaries the same as above; the fringe of both wings blackish-brown: head, thorax, antennæ, and tegulæ dark brown; the abdomen and legs black. Expanse $1\frac{3}{5}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

This species is allied to *D. adrasta*, from which it may be distinguished by the white patch on the primaries, and the narrower black border of the secondaries.

4. **Diamuna ælia,** sp. n. (Tab. XXX. figg. 23, 24.)

Primaries dark brown, irrorated with white scales along the costal margin, with two waved lines crossing from the costal to the inner margin (the first close to the base, the second submarginal), a round spot in the

cell, and a large mark at the end of the cell, greenish-brown, a rather indistinct white band crossing the wing beyond the middle, the fringe brown and grey; secondaries rich chrome-yellow, broadly bordered with deep black, the fringe black; the underside of the primaries black, with the costal margin close to the base streaked with yellow, a spot at the end of the cell, and a wide band beyond the cell, the latter not reaching either margin, creamy-white, that of the secondaries the same as above; the fringe of both wings black and white: head, antennæ, and collar black, the thorax and tegulæ dark brown, the legs brownish-black, the abdomen black. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui between 2000 and 3000 feet (*Champion*).

This species resembles *D. œdessa*, but differs from it in the colour of the underside. One example only has been received.

CLITIS.

Clitis, Walker, Cat. xii. p. 961 (1852).

This genus was established by Walker for the reception of *Phalæna Noctua proserpina*, Cram., an insect inhabiting Guiana. It chiefly differs from *Diamuna* in having shorter and broader primaries and longer and more slender antennæ. From Central America we have received one species which we now describe.

1. **Clitis primulina**, sp. n. (Tab. XXX. fig. 25.)

Primaries pale fawn-colour, darker from the apex to the anal angle, the fringe dark brown; secondaries pale yellow, broadly bordered with black from the apex to the inner margin; the underside of both wings primrose-yellow, broadly bordered with black, the marginal line yellow: head, thorax, and tegulæ fawn-colour, the underside of the head and the antennæ and front legs dark brown; abdomen blackish-brown, the sides and under surface yellow; legs yellow. Expanse $1\frac{7}{10}$ inch.

Hab. MEXICO, Presidio (*Forrer*).

Two specimens.

Subfam. *HYBLÆINÆ*.

HYBLÆA.

Hyblæa, Fabricius, Ent. Syst. iii. 2, p. 127 (1794); Guéneé, Sp. gén. des Lép. vi. p. 390 (1852); Walker, Cat. xii. p. 979.

One species of this genus is found in Central America, and this possesses a most remarkable distribution.

1. **Hyblæa puera.**

Phalæna Noctua puera, Cram. Pap. Exot. ii. p. 10, t. 103. ff. D, E [1].

Hyblæa puera, Guén. Sp. gén. des Lép. vi. p. 390 [2]; Walk. Cat. xii. p. 979 [3]; Butl. P. Z. S. 1878, p. 486 [4]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 185 [5] (sep. copy, p. 23).

Noctua saga, Fabr. Mant. Ins. ii. p. 137.

Hyblæa saga, Fabr. Ent. Syst. iii. 2, p. 128.

Noctua nuxia, Hübn. Europ. Schmett., Noct. f. 513.

Hab. MEXICO, Cordova (*Rümeli*), Coatepec (*Brooks*); HONDURAS [3]. — GUIANA,

Surinam [1], Cayenne [2], Brazil [2]; Amazons, Pará [2]; Antilles, San Domingo [3], Jamaica [3 4], Guadaloupe [2], Cuba [5]; Mauritius [2]; North India [3], Nepaul [3]; Ceylon [3]; China [3]; Java [2]; South Africa [3].

This species is common in most of the warmer parts of the globe, and does not vary to any extent.

Subfam. *GONOPTERINÆ.*

COSMOPHILA.

Cosmophila, Boisduval, Faune ent. de Mad., Bourb. et Maurice, Lép. p. 94 (1834); Guénée, Sp. gén. des Lép. vi. p. 394 (1852); Walker, Cat. xiii. p. 985.

Several species are included by Walker in this genus, one being common to North and South America, and the others inhabiting the warmer parts of the Old World.

1. **Cosmophila erosa.**

Anomis erosa, Hübn. Zutr. Samml. exot. Schmett. ff. 287, 288; Verz. bek. Schmett. p. 249; Grote, List of North-American Moths, p. 33 (1882) [1].

Cosmophila erosa, Guén. Sp. gén. des Lép. vi. p. 395 [2]; Walk. Cat. xiii. p. 986 [3]; Butler, Trans. Ent. Soc. Lond. 1879, p. 37 [4].

Hab. North America [1 2], North Carolina.—Mexico, Jalapa (*Höge*), Cuesta de Misantla (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*), Coatepec (*Brooks*), Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*, Sept. 1888); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*; *Arcé, mus. D.*; *Ribbe, mus. Staudinger*). — South America [2]; Colombia; Venezuela [3]; Brazil; Amazons [4]; Antilles, Jamaica [3], San Domingo [3].

This species very closely resembles *C. xanthindyma*, Boisd., from Madagascar, Ceylon, India, the Eastern Islands, &c.

ANOMIS.

Anomis, Hübner, Verz. bek. Schmett. p. 249 (1816); Guénée, Sp. gén. des Lép. vi. p. 397 (1852); Walker, Cat. xiii. p. 987.

Walker in his Catalogue includes fifteen species in this genus, all excepting two being North, Central, or South American, or from the Antilles. Four are here enumerated from Central America.

1. **Anomis argillacea.**

Aletia argillacea, Hübn. Zutr. Samml. exot. Schmett. ff. 399, 400; Grote, List of North-American Moths, p. 33 (1882) [1].

Mythimna argillacea, Walk. Cat. ix. p. 79 [2].

Anomis argillacea, Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 177 (sep. copy, p. 15) [3].

Anomis grandipuncta, Guén. Sp. gén. des Lép. vi. p. 400 [4]; Walk. Cat. xiii. p. 989 [5]; Butler, Trans. Ent. Soc. Lond. 1879, p. 37 [6].

Noctua xylina, Say, Trans. New York State Agr. Soc. 1857, p. 813 [7]; Complete Writings, i. p. 370.

Hab. North America [1 7], North Carolina, California.—Mexico, near the city (*Höge*), Atoyac in Vera Cruz (*H. H. Smith*); Guatemala, El Reposo 800 feet (*Champion*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*; *Arcé, in mus. D.*).—Venezuela [5]; Brazil [4 5], Bahia [2]; Amazons [6], Santarem [5], S. Paulo; Antilles, Cuba [3], San Domingo [5].

A common and widely distributed insect in the warmer parts of the New World. The larva is stated to feed upon the cotton-plant, and is known in the United States under the name of the cotton-worm [7]. *A. argillacea* varies considerably in colour and also in the distinctness of the whitish spot on the primaries, this being obsolete in some examples.

2. **Anomis exacta.**

Anomis exacta, Hübn. Samml. exot. Schmett. ii. t. 198. ff. 1–4; Verz. bek. Schmett. p. 249; Guén. Sp. gén. des Lép. vi. p. 399 [1]; Walk. Cat. xiii. p. 989 [2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 178 (sep. copy, p. 16) [3]; Grote, List of North-American Moths, p. 33 (1882) [4].

Hab. North America [4].—Mexico, Atoyac in Vera Cruz (*Schumann*), Teapa in Tabasco (*H. H. Smith*); Panama, Chiriqui (*Ribbe*).—Venezuela [2]; Brazil [1], Rio Janeiro; Amazons, Pará [2], S. Paulo; Antilles, Cuba [3], San Domingo [2].

Specimens from the Volcan de Chiriqui agree with Hübner's figures, and also with other examples from South America in my own collection; those from Mexico are rather brighter in colour.

3. **Anomis aricina,** sp. n. (Tab. XXX. fig. 26.)

Primaries dark brown, crossed by several very fine waved greyish-white lines, some greyish-white dots at the end of the cell, the fringe dark brown; secondaries uniform dark blackish-brown, the fringe rather paler: head, thorax, abdomen, legs, and antennæ brown. Expanse $1\frac{1}{4}$ inch.

Hab. Panama, Volcan de Chiriqui (*Ribbe*).

An example of this dull-coloured species is also contained in Dr. Staudinger's collection, and from the same locality.

4. **Anomis (?) illita.**

Anomis illita, Guén. Sp. gén. des Lép. vi. p. 400 [1]; Walk. Cat. xiii. p. 992 [2].

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Brazil [1 2].

A specimen from Chiriqui, apparently referable to this species, has been forwarded to me by Dr. Staudinger for examination. So far as I can judge from a single example, *A. illita* would be better placed in the genus *Gonitis*.

CHYTORYZA.

Chytorhyza, Grote, Canad. Ent. viii. p. 190 (1876) ; List of North-American Moths, p. 33 (1882).

This genus is allied to *Anomis* ; it was founded by Grote for the reception of a Texan insect, which we are now able to trace southwards to the State of Panama.

1. **Chytoryza tecta.**

Chytorhyza tecta, Grote, Canad. Ent. viii. p. 190[1] ; List of North-American Moths, p. 33 (1882).

Hab. North America, Texas[1].—Mexico, Dos Arroyos in Guerrero 1000 feet, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Coatepec (*Brooks*) ; Guatemala, San Gerónimo (*Champion*) ; Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*) ; Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This insect appears to be fairly common in Mexico, but to become rarer southwards, one specimen only having been received from each of the other localities mentioned. In some examples the white spot on the primaries is much more distinct than in others. Our specimens do not differ from those from Texas in the Grote collection now in the National Museum.

Mr. Smith's examples were captured in the months of February, May, and September.

HYPSOROPHA.

Hypsoropha, Hübner, Verz. bek. Schmett. p. 249 (1816) ; Walker, Cat. xiii. p. 994 ; Grote, List of North-American Moths, p. 34 (1882).

Monogona, Guénée, Sp. gén. des Lép. vi. p. 402 (1852).

Tiauspa, Walker, Cat. xiii. p. 995 (1857).

The two known species of this genus are both from North America ; a third is now added from Mexico.

1. **Hypsoropha adeona,** sp. n. (Tab. XXX. fig. 28.)

Primaries mouse-colour, thickly irrorated with dark brown scales, a white band crossing the wing from the costal to the middle of the inner margin, above which is a faint dark line near the inner margin, the white band broken into four white spots, and the wing on the outer side of it shaded with greyish-white, the fringe dark brown ; secondaries yellowish-fawn-colour, the fringe greyish : head, thorax, and legs mouse-colour ; abdomen fawn-colour above, whitish beneath. Expanse $1\frac{3}{4}$ inch.

Hab. Mexico, Jalapa (*Höge*).

Allied to *H. monilis*, Hübner. One specimen.

GONITIS.

Gonitis, Guénée, Sp. gén. des Lép. vi. p. 403 (1852) ; Walker, Cat. xiii. p. 997.

Numerous species are known of this genus, and it is represented in most parts of the world ; three are now enumerated from Central America.

1. Gonitis editrix.

Gonitis editrix, Guén. Sp. gén. des Lép. vi. p. 404, Noct. t. 11. f. 5 [1]; Walk. Cat. xiii. p. 998 [2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 178 (sep. copy, p. 16) [3].

Gonitis fractifera, Walk. Cat. xiii. p. 998 [4].

Gonitis cosmioides, Walk. Cat. xiii. p. 1000 [5].

Hab. Mexico, Jalapa (*Höge*, *M. Trujillo*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); Guatemala, San Isidro 1600 feet (*Champion*); Honduras [4]; Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Arcé*).—Colombia [1 2]; Venezuela [4]; Ecuador; Brazil; Antilles [1 2], San Domingo [1], Cuba [3 4 5].

This insect varies very much in colour. I cannot detect any reason for retaining *G. fractifera* and *G. cosmioides*, Walk., as distinct; they are nothing but slight varieties of *G. editrix*.

2. Gonitis reversa.

Gonitis reversa, Walk. Cat. xxxiii. p. 861 [1].

Hab. Mexico, Jalapa (*Höge*); Guatemala, Zapote (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Chiriqui (*Arcé*, *Ribbe*).—Brazil [1].

The type of this species is in the late Mr. Saunders's collection, now in the Oxford Museum. The specimens before me vary considerably, both in colour and size; the white discal spot is in some specimens obsolete, and in others very faint. Central-American examples are smaller and darker than those from Brazil. We have received a specimen of this insect from Dr. Staudinger under the name of *G. humeralis*, Guén.; this name, so far as I am aware, being an unpublished one.

3. Gonitis combinans.

Gonitis combinans, Walk. Cat. xiii. p. 1001 [1].

Hab. Panama, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—India and Ceylon [1].

The single specimen received from Chiriqui agrees perfectly with those from India and Ceylon in the National Museum.

Subfam. *AMPHIPYRINÆ*.

BARYDIA.

Barydia, Guénée, Sp. gén. des Lép. vi. p. 409 (1852); Walker, Cat. xiii. p. 1012; Butler, Trans. Ent. Soc. Lond. 1879, p. 37.

Guénée included one species only, *B. bufo*, Guén., from Cayenne, in this genus, Butler subsequently adding *Phalæna Noctua japeta*, Cram. (Pap. Exot. iv. t. 346. f. G), to it. We have now to notice a third species, which is here described. All three are inhabitants of South or Central America.

1. **Barydia severa**, sp. n. (Tab. XXX. fig. 27.)

Primaries dark brown, thickly irrorated with darker brown and cream-coloured scales, with a waved black line near the base crossing from the costal to the inner margin, but not reaching it, several small indistinct pale lines along the costal margin, a waved black line extending from the inner margin near the apex nearly to the costal margin, a large black spot with two cream-coloured dots on the outer side between the black line and the outer margin, two cream-coloured dots near the anal angle and one above close to the costal margin, and a marginal row of small cream-coloured dots extending from the apex to the anal angle, the fringe dark brown; secondaries pale silky brown, thickly irrorated round the outer margin with cream-coloured scales, and with a marginal row of small cream-coloured dots, a waved black line crossing about one third of the wing from the inner margin just above the anal angle, the black line edged with cream-colour on the outer side and becoming very indistinct about the middle of the wing; the underside pale silky brown, shaded with darker brown, but without any defined markings, the marginal cream-coloured spots as above: head, thorax, and abdomen dark brown, the abdomen densely tufted at the base; the antennæ, palpi, and legs dark brown. Expanse $2\frac{3}{4}$ inches.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA (*Whitely, in mus. D.*).

Our figure is taken from the Guiana specimen, it being in much better condition than the one from Chiriqui in Dr. Staudinger's collection.

These examples agree perfectly with each other, allowance being made for the difference of condition, one being fresh and the other much worn. *B. severa* is not very closely allied to *B. bufo* or *B. japeta*.

Subfam. *HOMOPTERINÆ*.

PHÆOCYMA.

Phæocyma, Hübner, Verz. bek. Schmett. p. 275 (1816); Guénée, Sp. gén. des Lép. vii. p. 2; Walker, Cat. xiii. p. 1045.

Pheocima, Grote, List of North-American Moths, p. 42 (1882).

This genus has hitherto only contained a single species from North America; a second is now added from the State of Panama.

1. **Phæocyma ilia**, sp. n. (Tab. XXXI. fig. 1.)

Primaries dark brown, thickly irrorated with very fine black lines, and with a greyish spot edged with black at the end of the cell, a fine straight black line edged with yellowish-brown crossing the wing near the base from the costal to the inner margin, a waved black line, broadly bordered on the outer side with yellowish-brown, beyond the middle extending from the costal to the inner margin near the anal angle, and a submarginal row of lunular markings, the latter black on the inner side, the fringe dark brown; secondaries dark brown, palest at the base, with a marginal row of small white dots; the underside of both wings greyish-brown: head, thorax (except in front), abdomen, and legs dark greyish-brown, the collar and the front of the thorax yellowish-brown, the antennæ and palpi dark brown. Expanse $1\frac{3}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species is allied to the North-American *P. lunifera*, Hübn., but differs greatly in the markings of the primaries; it also resembles the Chilian *Alamis polioides*, Guén. Some specimens are much greyer in colour than others.

COXINA.

Coxina, Guénée, Sp. gén. des Lép. vi. p. 297 (1852); Walker, Cat. xii. p. 867.

Walker followed Guénée in placing *Coxina* in the Eriopinæ; but it appears to me to be very much more closely allied to the genus *Homoptera*, and I therefore include it in the Homopterinæ. *Coxina* contains three representatives, all from Mexico or Central America.

1. Coxina ensipalpis.

Coxina ensipalpis, Guén. Sp. gén. des Lép. vi. p. 298, Noct. t. 14. f. 5 [1]; Walk. Cat. xii. p. 868 [2].

Hab. Mexico [1 2], Presidio (*Forrer*), Mexico city (*Höge*), Coatepec (*Brooks*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); British Honduras, Belize (*Blancaneaux*); Guatemala, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet, Zapote, Capetillo, Panima in Vera Paz (*Champion*); Panama, near the city (*J. J. Walker*), Taboga Island (*Mathew, mus. D.*).

This species is extremely variable in Mexico and Guatemala, where it is very common. Mr. Smith's examples were captured between the months of February and April.

2. Coxina minax.

Coxina minax, Guén. Sp. gén. des Lép. vi. p. 298 [1]; Walk. Cat. xii. p. 868 [2].

Hab. Mexico, Yucatan [1 2].

3. Coxina hadenoides.

Coxina hadenoides, Guén. Sp. gén. des Lép. vi. p. 299 [1]; Walk. Cat. xii. p. 868 [2].

Hab. Mexico [1 2].

Mons. Oberthür informs me that Guénée's type of this and of the preceding species cannot be found. It is most probable that they are only varieties of *C. ensipalpis*.

XYLIS.

Xylis, Guénée, Sp. gén. des Lép. vii. p. 7 (1852); Walker, Cat. xiii. p. 1051.

A single species only, from Brazil, was included by Guénée in this genus; it appears to me to be very closely allied to *Homoptera*, but to have the primaries slightly longer. *Homoptera ustipennis*, Walk., from an unknown locality, as noted by Butler (*cf.* Trans. Ent. Soc. Lond. 1879, p. 41), is a *Xylis*; this insect, as well as *X. setipes*, is now known to inhabit Central America.

1. Xylis setipes.

Xylis setipes, Guén. Sp. gén. des Lép. vii. p. 7, Noct. t. 15. f. 6 [1]; Walk. Cat. xiii. p. 1052 [2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 191 (sep. copy, p. 29) [3].

Hab. PANAMA, Volcan de Chiriqui (*Champion, Ribbe; mus. Staudinger*).—BRAZIL [1 2]; CUBA [3].

This species varies slightly. Dr. Staudinger informs me that his specimen from Chiriqui was named by Guénée; it is darker in colour than the figure.

2. **Xylis ustipennis.**

Homoptera ustipennis, Walk. Cat. xiii. p. 1071.

Hab. GUATEMALA, Zapote (*Champion*); PANAMA, Chiriqui (*Ribbe*).

HOMOPTERA.

Homoptera (Boisduval), Guénée, Sp. gén. des Lép. vii. p. 8 (1852); Walker, Cat. xiii. p. 1052; Grote, List of North-American Moths, p. 42 (1882).

This genus includes a large number of species, chiefly American. It is well represented in North, Central, and South America, and also in the Antilles. Many of the species are extremely variable; and it is more than probable that when they are better known the sexes of some of them will prove to have been treated as specifically distinct.

1. **Homoptera edusa,** var. **lunata.**

Phalæna Noctua edusa, Drury, Ill. Exot. Ins. ii. p. 42, t. 24. f. 4 [1].

Erebus edusa, Westw. ed. Drury, ii. p. 46, t. 24. f. 4.

Homoptera edusa, Guén. Sp. gén. des Lép. vii. p. 14 [2]; Walk. Cat. xiii. p. 1054 [3]; Grote, List of North-American Moths, p. 42 (1882); Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 191 (sep. copy, p. 29) [4].

Erebus (*Omopterus*) *putrescens,* Guér. Icon. Règne Anim. p. 522 (larva, t. 89. fig. 3) [5].

Phalæna Noctua lunata, Drury, Ill. Exot. Ins. i. p. 40, t. 20. f. 3 [6].

Homoptera lunata, Guén. Sp. gén. des Lép. vii. p. 12 [7]; Walk. Cat. xiii. p. 1053 [8]; Druce, P. Z. S. 1884, p. 323 [9].

Homoptera edusa, var. *lunata,* Grote, List of North-American Moths, p. 42.

Hab. NORTH AMERICA [1 2 5 7], United States [3 8], Carolina [6], Virginia [6].—MEXICO, Mexico city (*Höge*), Jalapa (*Schaus*), Cordova (*Rümeli*), Atoyac in Vera Cruz (*Schumann*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, Zapote (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Trötsch, in mus. Staudinger*).—ANTILLES, San Domingo [7], Cuba [4], Dominica [9].

This variable species is very common and widely distributed in North and Central America and the Antilles; but I have not as yet seen a specimen from south of the Isthmus of Panama. The large number of examples before me vary from almost black to pale brown, but in no one locality do they appear to be constant in colour or markings. We have not as yet received from within the limits of our fauna a specimen agreeing with the typical North-American *H. edusa,* all our numerous examples belonging to the variety *lunata.*

2. Homoptera exhausta.

Homoptera exhausta, Guén. Sp. gén. des Lép. vii. p. 14[1]; Walk. Cat. xiii. p. 1053[2]; Druce, P. Z. S. 1884, p. 323[3].

Hab. North America?[1 2].—Mexico, Jalapa (*Schaus*), Cordova (*Rümeli*), Cuesta de Misantla (*M. Trujillo*); Guatemala, in the city (*Rodriguez*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—Brazil[1 2]; Antilles, Dominica[3], San Domingo[2].

A common species in Mexico. *H. exhausta* is not included in Grote's Check-list of North-American Moths, and the species probably does not extend into the United States.

3. Homoptera marginalis.

Homoptera marginalis, Walk. Cat. xxxiii. p. 878[1].

Hab. Mexico, Oaxaca (*Sallé*[1]), Jalapa (*Schaus*); Guatemala, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3000 feet (*Champion*); Panama, Volcan de Chiriqui below 4000 feet (*Champion*).—Colombia, Bogota.

A very variable insect. Walker in his Catalogue[1] states that it is closely allied to *H. minerea*, and that it perhaps is a local variety of that species.

4. Homoptera terrosa.

? *Phalæna lunata,* Cram. Pap. Ex. iv. p. 38, t. 308. f. C[1] (nec Drury).

Homoptera terrosa, Guén. Sp. gén. des Lép. vii. p. 11[2]; Walk. Cat. xiii. p. 1058[3]; Butler, P. Z. S. 1878, p. 487[4]; Druce, P. Z. S. 1884, p. 323[5]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 400[6].

Homoptera configurata, Walk. Cat. xiii. p. 1058[7].

Homoptera posterior, Walk. Cat. xiii. p. 1060[8].

Hab. Mexico[2 3 7], Tampico in Tamaulipas (*Richardson*), Jalapa (*Höge, Schaus*), Coatepec (*Brooks*), Teapa in Tabasco (*H. H. Smith*); Nicaragua, Chontales (*Janson*); Panama, Volcan de Chiriqui (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—Guiana, Surinam[1 6]; Antilles, Guadaloupe[2 3], Jamaica[3 4 8], Dominica[5].

This species does not vary to any extent, judging from the large series of specimens from numerous localities before me.

5. Homoptera gradata.

Homoptera gradata, Walk. Cat. xiii. p. 1060[1].

Hab. Mexico, Jalapa (*Schaus*); Guatemala, Coatepeque (*Champion*); Costa Rica (*Van Patten, Boucard*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Antilles, San Domingo[1].

A common insect in Central America. The large number of specimens received do not show any variation.

6. **Homoptera viridans.**

? *Phalæna lunata,* Cram. Pap. Exot. iv. p. 38, t. 308. f. C (nec Drury) [1].

Homoptera viridans, Guén. Sp. gén. des Lép. vii. p. 13 [2]; Walk. Cat. xiii. p. 1064 [3].

Hab. North America, Florida [3].—Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—Guiana, Surinam [1]; Brazil [2], Rio Janeiro.

We have only seen three specimens of this species from Central America; it is very widely distributed, but appears to be everywhere rare.

7. **Homoptera viridisquama.**

Homoptera viridisquama, Walk. Cat. xv. p. 1797 [1].

Hab. Mexico, Cordova (*Rümeli*), Atoyac in Vera Cruz (*Schumann*); Guatemala, Volcan de Atitlan 2500 to 3500 feet, Zapote (*Champion*); Panama, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—Brazil [1].

The Central-American specimens before me do not differ from Walker's type in the National Collection.

8. **Homoptera æmona,** sp. n. (Tab. XXXI. fig. 3.)

Primaries dark brown, shaded with blackish-brown along the costal and inner margins, with several narrow black waved lines crossing the wing from the costal to the inner margin, a marginal row of minute black dots, edged with pale brown on the outer side, extending from the apex to the anal angle, and a very minute greyish-white spot at the end of the cell, the fringe dark brown; secondaries dark brown, with a marginal row of spots on the primaries and two narrow black lines crossing the wing below the middle from the inner margin to the apex, below which, about the middle, is a greyish-white **W**-shaped mark; the fringe dark brown; the underside of both wings pale brown, with several very indistinct darker brown bands: head, thorax, and abdomen above dark blackish-brown, beneath pale brown, the second segment of the abdomen pale yellowish-brown; the palpi and antennæ dark brown, the legs pale greyish-brown. The female similar to the male, but paler in colour. Expanse $1\frac{3}{4}$ inch.

Hab. Mexico, Cuesta de Misantla (*M. Trujillo*); Guatemala, Volcan de Atitlan 2500 to 3500 feet, Zapote (*Champion*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The specimens from Guatemala are rather the largest, and are paler in colour than those from the Volcan de Chiriqui. Our figure is taken from one of these latter.

9. **Homoptera (?) simplicior.**

Homoptera simplicior, Walk. Cat. xiii. p. 1065 [1].

Hab. Mexico, Jalisco (*Schumann*); Honduras (*Dyson* [1]).

A worn specimen received from Jalisco agrees with the type in the National Collection. I think it doubtful if this species really belongs to the genus *Homoptera.*

10. **Homoptera decessa.**

Homoptera decessa, Walk. Cat. xiii. p. 1072 [1].

Hab. PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).

Walker's type is from an unknown locality [1].

11. **Homoptera apicalis.**

Homoptera apicalis, Walk. Cat. xiii. p. 1066 [1].

Hab. HONDURAS (*Dyson* [1]).

Only known to me by the type in the British Museum.

12. **Homoptera discisigna.**

Homoptera discisigna, Walk. Cat. xiii. p. 1066 [1].

Hab. HONDURAS (*Dyson* [1]).

The type of this species is in very bad condition.

13. **Homoptera subrosea.**

Homoptera subrosea, Walk. Cat. xiii. p. 1070 [1].

Hab. PANAMA, Chiriqui (*Ribbe*).

Of this species we have received one specimen from Chiriqui which agrees well with the type in the British Museum; the locality of the latter remains unknown [1].

14. **Homoptera amata,** sp. n. (Tab. XXXI. fig. 4.)

Primaries dark brown, shaded with bluish-grey, crossed from the costal to the inner margin by four waved narrow black lines, the costal margin streaked with white, a large white mark at the end of the cell extending to the costal margin, a submarginal row of black spots running from the apex to the anal angle, the inner side of these spots greyish-white; secondaries dark brown, shaded with bluish-grey, crossed from the inner margin to beyond the middle by three waved black lines, and with a submarginal row of spots similar to that on the primaries; the fringe of both wings dark brown; the underside pale brown irrorated with dark brown scales, that of the secondaries crossed by two brown lines, the costal and outer margins of the wings spotted with white: head and front of the thorax yellowish-brown, the rest of the thorax and the abdomen dark brown irrorated with bluish-grey scales, the first four segments of the abdomen with a central yellowish-brown spot; antennæ, palpi, and legs brown. Expanse $2\frac{1}{10}$ inches.

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen of this very distinct species was captured by Mr. Champion; it is allied to *H. subrosea*, Walker.

15. **Homoptera mima.**

Homoptera mima, Harvey, Canad. Ent. viii. p. 155 [1].

Eubolina mima, Grote, List of North-American Moths, p. 42 (1882).

Hab. NORTH AMERICA, Texas [1].—MEXICO, Northern Sonora (*Morrison*).

Our Sonoran specimens agree with others from Texas, so named in the Grote collection now in the National Museum.

YPSIA.

Ypsia, Guénée, Sp. gén. des Lép. vii. p. 16 (1852); Walker, Cat. xiii. p. 1073; Grote, List of North-American Moths, p. 42 (1882).

Two species from North America were included in this genus by Guénée, *Y. æruginosa*, Guén., and *Y. undularis* (Drury); the first-named, of which we have received an example from Mexico, has subsequently proved to be only a variety of the latter. An additional species is now added from Central America.

1. **Ypsia undularis.**

Noctua undularis, Drury, Ill. Exot. Ins. i. p. 19, t. 9. f. 4[1]; Westw. ed. Drury, i. p. 19, t. 9. f. 19.
Ypsia undularis, Guén. Sp. gén. des Lép. vii. p. 18[2]; Walk. Cat. xiii. p. 1074[3]; Grote, List of North-American Moths, p. 42 (1882).
Ypsia æruginosa, Guén. Sp. gén. des Lép. vii. p. 17[4]; Walk. Cat. xiii. p. 1074[5].
Ypsia undularis, var. *æruginosa*, Grote, List of North-American Moths, p. 42.
Ypsia umbripennis, Grote, Canad. Ent. viii. p. 109[6].
Ypsia undularis, var. *umbripennis*, Grote, List of North-American Moths, p. 42.

Hab. North America[2 4 5 6], New York[1 3].—Mexico, Jalisco (*Schumann*).

The single specimen received from Western Mexico agrees perfectly with others from North America in my own collection.

2. **Ypsia lineata**, sp. n.

Primaries and secondaries dark blackish-brown, much the same in colour as in *Y. undularis*, crossed by black lines, which are placed considerably nearer the base than in that species, the primaries with several very minute white spots at the end of the cell, on the costal margin near the base, and at the anal angle, the primaries and secondaries each with a row of minute white spots extending from the apex to the anal angle; the underside of both wings dark brown: head, thorax, and abdomen dark blackish-brown; antennæ, palpi, and legs dark brown. Expanse $1\frac{2}{5}$ inch.

Hab. Guatemala, Senahu and San Gerónimo in Vera Paz (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

It is quite possible that this insect may prove to be yet another form of *Y. undularis*, from which it chiefly differs in having the lines on the primaries and secondaries placed nearer the base; it is also considerably smaller.

Subfam. *HYPOGRAMMINÆ*.

SAFIA.

Safia, Guénée, Sp. gén. des Lép. vii. p. 20 (1852); Walker, Cat. xiii. p. 1079.

This genus was founded by Guénée upon an insect from Guiana described and

figured by Cramer; Walker also included in it two additional species from the same country, whence various others have since been recorded by Möschler. One of these species is now known to inhabit the State of Panama, and I now describe another from the same State.

1. **Safia celia.**

Phalæna Noctua celia, Cram. Pap. Exot. iv. p. 109, t. 346. ff. E, F [1].

Safia celia, Guén. Sp. gén. des Lép. vii. p. 21 [2]; Walk. Cat. xiii. p. 1080 [3]; Butl. Trans. Ent. Soc. Lond. 1879, p. 41 [4].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA [3], Surinam [1 2 3]; AMAZONS, Rio Trombetas [4].

2. **Safia ænia,** sp. n. (Tab. XXXI. fig. 5.)

Primaries dark brown, banded from the inner margin to about the middle of the wing with three dark brown marks, and with a large dark brown patch shaded with bluish-grey on the costal margin near the apex, and a row of minute brown spots extending from the apex to the anal angle; secondaries dark brown, the outer margin broadly bordered with pale brown, and with a submarginal row of small brown spots; the fringe of both wings dark brown; the underside pale dusky-brown, with two faint brown lines crossing each wing: head, thorax, and abdomen dark brown, the anal tuft pale brown, the antennæ, palpi, and legs blackish-brown, the abdomen with a tuft of deep black scales at the base. The female similar to the male, but very much darker in colour. Expanse, ♂ ♀, $1\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

This species is allied to *S. celia,* but very differently marked.

YRIAS.

Yrias, Guénée, Sp. gén. des Lép. vii. p. 21 (1852); Walker, Cat. xiii. p. 1081.

Three species, one from the Antilles and two from Tropical South America, were included in this genus by Guénée and Walker; and others from South America have subsequently been added to it by Möschler and Felder. Two are now enumerated from Central America.

1. **Yrias progenies.**

Yrias progenies, Guén. Sp. gén. des Lép. vii. p. 23, Noct. t. 15. f. 10 [1]; Walk. Cat. xiii. p. 1081 [2]; Butl. Trans. Ent. Soc. Lond. 1879, p. 41 [3]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 408 [4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 30.

Hab. MEXICO, Presidio (*Forrer*); COSTA RICA, Punta Arenas (*J. J. Walker*).—Guiana, Paramaribo [4]; AMAZONS, Lake Juruty [3]; ANTILLES, St. Thomas [1 2], Guadaloupe [1 2].

Central-American specimens agree perfectly with Guénée's figure.

2. **Yrias mollis.**

Yrias mollis, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 407, t. 8. f. 3 [1]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 29.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Surinam [1].

We are indebted to Dr. Staudinger for kindly sending his Chiriqui specimen for our inspection; the species is quite distinct from any other known to us.

LEPIDODES.

Lepidodes, Guénée, Sp. gén. des Lép. vii. p. 27 (1852); Walker, Cat. xiii. p. 1085.

It is very doubtful if this genus should be located in the Hypogramminæ; but for the sake of convenience I provisionally place it here, following the arrangement of Guénée and Walker. A single species from Colombia was included in it by Guénée; this extends northwards into Central America, whence a second species is now added.

1. **Lepidodes limbulata.**

Lepidodes limbulata, Guén. Sp. gén. des Lép. vii. p. 28, Noct. t. 18. f. 9[1]; Walk. Cat. xiii. p. 1086[2].
Bæcula gallopavo, Walk. Cat. ix. p. 148[3].
Lepidodes cornifrons, Feld. & Rogenh. Reise der Novara, Lep. t. 112. f. 11, Erkl. der Taf. 112. no. 11[4].

Hab. Mexico, Jalapa (*Schaus*), Valladolid in Yucatan (*Gaumer*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Colombia [1 2]; Venezuela [3 4].

One specimen only of this species has been received by us from within the limits of our fauna.

2. **Lepidodes (?) ænyra**, sp. n. (Tab. XXXI. fig. 6.)

Primaries pinkish-brown, thickly irrorated with darker brown scales, with several minute black streaks near the inner margin and an indistinct brown mark near the anal angle; secondaries uniformly pale blackish-brown, becoming whitish at the base; the fringe of both wings pale brown; the underside pale brown, the primaries darker than the secondaries: head, thorax, abdomen, antennæ, palpi, and legs pale pinkish-brown. Expanse $1\frac{3}{4}$ inch.

Hab. Panama, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen only of this species was captured by Mr. Champion.

PHOSPHILA.

Phosphila, Hübner, Verz. bek. Schmett. p. 208 (1816).

Hübner included two species in this genus, one of these being from North and the other from South America; both were doubtfully included in *Amphipyra* by Walker. A third species, from the Amazons, has subsequently been referred to it by Butler; this is known to me from as far north as Guatemala, and a fourth is now added from the State of Panama.

1. **Phosphila tatosoma.**

Phosphila (?) *tatosoma*, Butl. Trans. Ent. Soc. Lond. 1879, p. 42[1].

Hab. Guatemala, Volcan de Atitlan 2500 to 3500 feet, Zapote (*Champion*); Panama, Chiriqui (*Ribbe*).—Amazons, Mauhes River [1].

Central-American specimens agree perfectly with the type in the National Collection. The numerous examples received from Guatemala do not show the slightest variation; these were mostly attracted to light in the month of December.

2. **Phosphila æxonia,** sp. n. (Tab. XXXI. fig. 7.)

Primaries brown, marked very much as in *P. tatosoma*, but much paler in the middle, the spot on the inner margin near the base larger and darker in colour and the outer marginal waved band considerably broader; secondaries dark brown, but not so dark as in *P. tatosoma*: head, thorax, and abdomen blackish-brown, the antennæ and legs brown. Expanse $1\frac{3}{5}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*), Chiriqui (*Ribbe*).

This species is closely allied to *P. tatosoma*, Butl., from which it differs in its paler colour and in the form of the antennæ of the male.

CŒNIPETA.

Coenipeta, Hübner, Verz. bek. Schmett. p. 260 (1816).
Cœnipeta, Guénée, Sp. gén. des Lép. vii. p. 29; Walker, Cat. xiii. p. 1090.
Helia, Hübner, Verz. bek. Schmett. p. 259 (partim).

About fourteen species of this genus are known, all American; eight are now recorded from Central America, one of which is described as new. Some of the species are very variable.

1. **Cœnipeta serapis.**

Phalæna Noctua serapis, Cram. Pap. Exot. iv. p. 222, t. 396. f. F [1].
Cœnipeta serapis, Guén. Sp. gén. des Lép. vii. p. 33 [2]; Walk. Cat. xiii. p. 1091 [3].

Hab. PANAMA, Chiriqui (*Arcé, in mus. D.*).—GUIANA, Berbice [1 2 3].

The specimens received from Arcé from Chiriqui are almost identical with Cramer's figure.

2. **Cœnipeta lobuligera.**

Cœnipeta lobuligera, Guén. Sp. gén. des Lép. vii. p. 32 [1]; Walk. Cat. xiii. p. 1091 [2].
Cœnipeta aniloba, Guén. Sp. gén. des Lép. vii. p. 33 [3]; Walk. Cat. xiii. p. 1093 [4]; Butl. Trans. Ent. Soc. Lond. 1879, p. 44 [5].
Cœnipeta columbina, Walk. Cat. xxxiii. p. 892 [6].
Cœnipeta lilacina, Butl. Trans. Ent. Soc. Lond. 1879, p. 44 [7].

Hab. MEXICO, Coatepec (*Brooks*); GUATEMALA, San Gerónimo (*Champion*); PANAMA, Bugaba 800 to 1000 feet (*Champion*).—BRAZIL [2 3 4], Bahia [1]; AMAZONS, Rio Tapajos [5], Borba [5], Santarem [6], Rio Negro [5 7], Pará [2]; WEST COAST OF AMERICA [2]; ANTILLES, San Domingo [2].

This variable insect is found over a very extended range of country, and with the large series of specimens before me it is quite impossible to retain *C. aniloba*, *C. columbina*, or *C. lilacina* as distinct; they are simply varieties of *C. lobuligera*.

3. Cœnipeta bibitrix.

Helia bibitrix, Hübn. Zutr. Samml. exot. Schmett. ii. p. 26, ff. 343, 344.
Cœnipeta bibitrix, Guén. Sp. gén. des. Lép. vii. p. 31[1]; Walk. Cat. xiii. p. 1092[2].
Cœnipeta glaucescens, Walk. Cat. xxxv. p. 1967[3].

Hab. MEXICO, State of Durango (*Forrer*), Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*), Jalapa (*Schaus*), Cordova (*Höge*); GUATEMALA, San Gerónimo, Capetillo (*Champion*), COSTA RICA, Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui below 4000 feet (*Champion*), Obispo (*Salvin*).—COLOMBIA, Bogota[3]; GUIANA, Surinam[1 2].

This is a common species in our region and a very variable one, hardly two specimens from either of the localities being exactly alike. *Cœnipeta glaucescens*, Walk., the type of which is now in my own collection, is, without doubt, not distinct from *C. bibitrix*. I have not seen a specimen so bright in colour as Hübner's figure.

4. Cœnipeta polynoe.

Cœnipeta polynoe, Guén. Sp. gén. des Lép. vii. p. 31[1]; Walk. Cat. xiii. p. 1093[2]; Butl. Trans. Ent. Soc. Lond. 1879, p. 43[3].

Hab. MEXICO, Cordova (*Rümeli*), Jalapa (*Schaus*); CENTRAL AMERICA[3]; GUATEMALA, San Isidro 1000 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; GUIANA, Cayenne[1 2]; AMAZONS[3]; WEST COAST OF AMERICA[2].

We have only received four specimens of this well-marked species from Central America.

5. Cœnipeta feronia.

Cœnipeta feronia, Feld. & Rogenh. Reise der Novara, Lep. t. 112. f. 7, Erkl. der Taf. 112. no. 7[1].

Hab. MEXICO, Paso de San Juan (*Schaus*); PANAMA, Bugaba 800 to 1000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR; AMAZONS[1], Santarem.

Our Central-American specimens of this species are all males, and they are considerably darker in colour than the female represented by Felder and Rogenhofer; but they have similarly placed black lines on the primaries. Other examples, however, from Santarem in my own collection agree perfectly with those from Central America. *C. feronia* is allied to *C. polynoe*, but is very differently marked beneath.

6. Cœnipeta æolia, sp. n. (Tab. XXXI. fig. 9.)

Primaries pale greyish-brown, crossed from the costal to the inner margin by two waved black lines, between which are two very distinct blackish-brown patches—the first at the end of the cell, the other below it and nearer the base on the inner margin, which it does not quite reach,—the outer margin clouded with dark brown; secondaries pale brown, broadly bordered with blackish-brown, with a pale yellowish-brown line extending from the inner margin close to the anal angle almost to the apex but not quite reaching it; the underside of both wings pale yellowish-brown, the outer margins clouded with darker brown, the secondaries crossed by two narrow waved lines which extend from the middle of the costal to the inner

margin: head, thorax, and abdomen above pale greyish-brown, the under surface and the legs considerably paler in colour, the antennæ and palpi dark brown. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Dr. Staudinger's specimen from Chiriqui is considerably paler in colour than the one from Mexico from which our figure is taken, but in other respects it agrees with it.

7. Cœnipeta medina.

Phalæna Noctua damonia, Cram. Pap. Exot. iv. p. 71, t. 324. ff. D, E [1].

Cœnipeta medina, Guén. Sp. gén. des Lép. vii. p. 33 [2]; Walk. Cat. xiii. p. 1094 [3].

Cœnipeta saxosa, Walk. Cat. xv. p. 1801 [4].

Hypogramma hemiplagia, Feld. & Rogenh. Reise der Novara, Lep. t. 112. f. 6, Erkl. der Taf. 112. no. 6 [5].

Hab. MEXICO, Jalapa (*Schaus*), Valladolid in Yucatan (*Gaumer*); PANAMA, Bugaba, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).—GUIANA, Surinam [1 3]; BRAZIL, Pernambuco [2].

This species is very widely distributed, but appears to be rare in Central America; two specimens only were captured by Mr. Champion.

The locality for *C. saxosa* was not known to Walker [4]; that for *Hypogramma hemiplagia* is given as "Amer. mer." [5].

8. Cœnipeta dimidiata. (Tab. XXXI. fig. 10.)

Cœnipeta dimidiata, Butl. Trans. Ent. Soc. Lond. 1879, p. 44 [1].

Hab. PANAMA, Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*).—ECUADOR; AMAZONS [1].

Chiriqui specimens agree with the type in the National Collection. *C. dimidiata* is very differently coloured from any other species of the genus.

HYPOGRAMMA.

Hypogramma, Guénée, Sp. gén. des Lép. vii. p. 34 (1852); Walker, Cat. xiii. p. 1095.

This is a genus containing a few species distributed in North, Central, and South America and the Antilles. It is very closely allied to *Cœnipeta*, the neuration being almost identical; but the wings are longer and the palpi a little larger.

1. Hypogramma damonia.

Phalæna Noctua damonia, Cram. Pap. Exot. iv. p. 71, t. 324. ff. B, C [1].

Hypogramma damonia, Guén. Sp. gén. des Lép. vii. p. 35 [2]; Walk. Cat. xiii. p. 1097 [3]; Butl. Trans. Ent. Soc. Lond. 1879, p. 45 [4].

Phalæna sulima, Stoll, Suppl. Cram. Pap. Exot. p. 175, t. 40, ff. 5, 5 C [5].

Hypogramma sulima, Guén. Sp. gén. des Lép. vii. p. 35 [6]; Walk. Cat. xiii. p. 1096 [7]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 413 [8]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 35.

Hab. MEXICO, Jalapa (*Schaus*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Arcé*). — COLOMBIA; ECUADOR; GUIANA, Surinam [1 2 3 5 6], Cayenne [6 7]; BRAZIL [7]; AMAZONS [4], Santarem [7]; TRINIDAD.

This insect is apparently rare in our region, but in Tropical South America it is one of the commonest species. Specimens from Ecuador show a considerable amount of variation; in some of them the white marking of the wings is almost obsolete.

2. **Hypogramma suttea.**

Cænipeta suttea, Guén. Sp. gén. des Lép. vii. p. 30 [1]; Walk. Cat. xiii. p. 1092 [2].
Hypogramma suttea, Butl. Trans. Ent. Soc. Lond. 1879, p. 45 [3].

Hab. GUATEMALA, El Tumbador 2500 feet, Coatepeque, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*).—COLOMBIA; ECUADOR; BRAZIL [1 2]; AMAZONS [3], Pará [2].

A wide-ranging species, and very constant in its markings. I follow Butler in placing it in the genus *Hypogramma*.

DECELEA.

Decelea, Walker, Cat. xiii. p. 1115 (1857).

Walker in his Catalogue placed four species in this genus—two of them from the Antilles, one from the west coast of America, and one for which the locality is not stated. The third mentioned I am now enabled to trace to the State of Panama.

1. **Decelea diffusa.**

Decelea diffusa, Walk. Cat. xiii. p. 1116 [1].

Hab. PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—WEST COAST OF AMERICA (*Kellett & Wood* [1]).

Our Chiriqui specimens agree perfectly with the type in the National Collection; the exact locality for the latter is not recorded.

Subfam. *CATEPHIINÆ.*

VESPOLA.

Vespola, Walker, Journ. Linn. Soc., Zool. ix. p. 185 (1868).

Walker founded this genus upon a single species from Colombia; this extends along the Isthmus of Panama to Chiriqui, whence we have received two male examples. The female is unknown.

1. **Vespola cæruleifera.** (Tab. XXXI. fig. 12.)

Vespola cæruleifera, Walk. Journ. Linn. Soc., Zool. ix. p. 186 (♂) [1].

Hab. PANAMA, Bugaba (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA, Bogota [1].

The type of this beautiful species is now in my own collection.

STICTOPTERA.

Stictoptera, Guénée, Sp. gén. des Lép. vii. p. 51 (1852); Walker, Cat. xiii. p. 1130; Grote, List of North-American Moths, p. 39 (1882).

Walker included nine species in this genus, six from Tropical South America or the Antilles and three from India or Java; and Grote has since described one from North America. The species closely resemble some of the Pyralidæ. Mr. Butler (Trans. Ent. Soc. Lond. 1879, p. 46) sinks *S. phryganoides*, Walk., and *Nagara* (?) *steirialis*, Walk., as synonymous with *S. subaurata*, Walk.; all three are from the Amazons.

One species only is known to me from Central America.

1. Stictoptera fenestra.

Stictoptera fenestra, Guén. Sp. gén. des Lép. vii. p. 53, Noct. t. 14. f. 12[1]; Walk. Cat. xiii. p. 1132[2].

Hab. PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).—BRAZIL [1 2].

Our specimens agree with Guénée's figure, except that they have the head and front of the thorax darker in colour. I think it quite probable that this insect will prove to be not distinct from *S. clara* (Cram.) when we have more specimens for comparison.

Subfam. *BOLININÆ*.

PANULA.

Panula, Guénée, Sp. gén. des Lép. vii. p. 59 (1852); Walker, Cat. xiii. p. 1143; Grote, List of North-American Moths, p. 39 (1882).

This genus is closely allied to *Melipotis*, from which it differs in having the primaries shorter and the secondaries more rounded. It contains two species from North America, one of which extends to the Antilles and southwards to Honduras.

1. Panula inconstans.

Panula inconstans, Guén. Sp. gén. des Lép. vii. p. 59[1]; Walk. Cat. xiii. p. 1144[2], and xv. p. 1813[3].

Hab. NORTH AMERICA [1 2].—HONDURAS [3].—ANTILLES [3], Jamaica [3], San Domingo [3].

We have not received any specimens of this species, and those in the National Collection are the only ones we have seen.

MELIPOTIS.

Melipotis, Hübner, Verz. bek. Schmett. p. 260 (1816); Grote, List of North-American Moths, p. 39 (1882).

Bolina (Duponchel), Guénée, Sp. gén. des Lép. vii. p. 60 (1852); Walker, Cat. xiii. p. 1144.

This genus contains a large number of species which are distributed over North, Central and South America, and the Antilles; twenty-two are now recorded from within the limits of our fauna. The European species referred to it are probably not really congeneric. I follow Grote in adopting Hübner's name.

1. **Melipotis imparallela.** (Tab. XXXI. fig. 13.)

Bolina imparallela, Guén. Sp. gén. des Lép. vii. p. 65 [1]; Walk. Cat. xiii. p. 1146 [2].

Hab. Mexico [1 2], Sierra Madre de Tepic (*Richardson*).—Colombia [1].

We have lately received one specimen of this insect from North-western Mexico; this only differs from the type in being a little brighter in colour. Through the kindness of Mons. C. Oberthür we are enabled to figure the latter.

2. **Melipotis nigrobasis.**

Bolina nigrobasis, Guén. Sp. gén. des Lép. vii. p. 65, Noct. t. 13. f. 8 [1]; Walk. Cat. xiii. p. 1146 [2].

Hab. Mexico [1 2].

This species appears to be closely allied to *M. imparallela*, but is, I think, distinct, the bands of the primaries being more sharply defined.

3. **Melipotis limitaris.**

Bolina limitaris, Guén. Sp. gén. des Lép. vii. p. 70 [1]; Walk. Cat. xiii. p. 1146 [2].

Hab. Mexico [1 2].

Mons. C. Oberthür informs me that he cannot find Guénée's type of this species, and that it is most likely destroyed.

4. **Melipotis famelica.**

Bolina famelica, Guén. Sp. gén. des Lép. vii. p. 62 [1]; Walk. Cat. xiii. p. 1146 [2].

Bolina excepta, Walk. Cat. xiii. p. 1165 [3].

Hab. Mexico, State of Durango (*Forrer*), Mexico city (*Höge*), Cordova (*Rümeli*), Valladolid in Yucatan (*Gaumer*), Campeche [1 2]; Guatemala, in the city (*Rodriguez*); Honduras (*Dyson* [2]).—Venezuela [3].

The insect described by Walker under the name of *Bolina excepta* does not differ from Guénée's *B. famelica*.

5. **Melipotis fasciolaris.**

Ædia fasciolaris, Hübn. Zutr. Samml. exot. Schmett. iii. p. 15, ff. 443, 444 [1].

Bolina fasciolaris, Walk. Cat. xiii. p. 1147 [2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb.

1868, p. 186 (sep. copy, p. 24)[3]; Butl. P. Z. S. 1878, p. 487[4]; Trans. Ent. Soc. Lond. 1879, p. 46[5]; Druce, P. Z. S. 1884, p. 323[6].

Melipotis fasciolaris, Grote, List of North-American Moths, p. 39 (1882)[7].

Bolina fascicularis, Guén. Sp. gén. des Lép. vii. p. 63[8].

Bolina cunearis, Guén. Sp. gén. des Lép. vii. p. 70[9]; Walk. Cat. xiii. p. 1150[10]; Butl. P. Z. S. 1878, p. 487[11].

Bolina illuminans, Walk. Cat. xiii. p. 1164[12].

? *Ædia pallescens*, Grote & Robinson, Proc. Ent. Soc. Phil. vi. p. 21, t. 3. f. 5[13].

? *Melipotis pallescens*, Grote, List of North-American Moths, p. 39[14].

Hab. North America[7 14], Texas[13].—Mexico, Acapulco, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Jalapa (*Höge*), Coatepec (*Brooks*), Vera Cruz[2]; Honduras[2] (*Dyson*[12]), Ruatan I. (*Gaumer*); Panama, Volcan de Chiriqui, David (*Champion*), Chiriqui (*Ribbe*), Taboga I. (*J. J. Walker*).—Venezuela[10]; Brazil[2 10], Bahia[1 2]; Amazons[2 5]; West Coast of America[10]; Antilles[8], Cuba[3 9 10], Jamaica[4 11]; San Domingo[2 10]; Dominica[6].

This is a common and very widely-distributed species, and one that is subject to a considerable amount of variation. I have a large series of specimens before me, and I do not hesitate in including *Bolina cunearis* and *B. illuminans* with it. *M. pallescens* (Grote and Robinson), to judge from the examples under that name in the Grote collection, is probably not distinct from *M. fasciolaris*. Mr. Smith's Mexican examples were captured in the months of March, April, May, and September.

6. **Melipotis separata.**

Bolina separata, Walk. Cat. xv. p. 1813[1].

Hab. Mexico[1].

We have not received any specimens agreeing with Walker's type in the British Museum.

7. **Melipotis russaris.**

Bolina russaris, Guén. Sp. gén. des Lép. vii. p. 69[1]; Walk. Cat. xiii. p. 1149[2].

Hab. Panama, near the city (*J. J. Walker*).—Antilles, Martinique[1 2], San Domingo[2].

One specimen of this very distinct species was obtained by Mr. J. J. Walker near the city of Panama.

8. **Melipotis perpendicularis.**

Bolina perpendicularis, Guén. Sp. gén. des Lép. vii. p. 65[1]; Walk. Cat. xiii. p. 1150[2]; Butl. P. Z. S. 1878, p. 487[3].

Hab. Honduras (*Dyson*[2]).—Colombia[1 2]; Venezuela[2]; Antilles, Jamaica[2 3].

9. **Melipotis ochrodes.**

Bolina ochrodes, Guén. Sp. gén. des Lép. vii. p. 64[1]; Walk. Cat. xiii. p. 1151[2].

Hab. Mexico, Presidio (*Forrer*).—Venezuela[2]; Antilles, San Domingo[2], Jamaica[2].

This species is readily distinguished from all others of the genus by the yellow band crossing the primaries; the locality was unknown to Guénée [1].

10. **Melipotis nigrescens.**

Ædia nigrescens, Grote & Robinson, Proc. Ent. Soc. Phil. vi. p. 20, t. 3. f. 4 [1].
Melipotis nigrescens, Grote, List of North-American Moths, p. 39 (1882).

Hab. NORTH AMERICA, Texas [1].—MEXICO, Presidio (*Forrer*).

A specimen received from North-western Mexico agrees well with others from North America in Mr. Grote's collection in the British Museum. *M. nigrescens* is closely allied to *M. manipularis* (Guén.); but it is much paler in colour, and the black margins of the secondaries are very much narrower, especially beneath.

11. **Melipotis bistriga.**

Bolina bistriga, Walk. Cat. xiii. p. 1155 [1]; Druce, P. Z. S. 1884, p. 323 [2].

Hab. MEXICO, Jalapa (*Schaus*), Coatepec (*Brooks*); BRITISH HONDURAS, Belize (*Blancaneaux*); PANAMA, Colon (*Boucard, in mus. D.*).—ANTILLES, San Domingo [1], Dominica [2].

I have only seen a few specimens of this species. It is closely allied to *M. comprehendens* (Walk.), and the two may prove to be not specifically distinct when sufficient material is obtained for comparison.

12. **Melipotis comprehendens.**

Bolina comprehendens, Walk. Cat. xiii. p. 1163 [1].

Hab. MEXICO, near the city (*Höge*), Jalapa (*Schaus*); GUATEMALA, Capetillo (*Champion*).—BRAZIL [1].

Central-American specimens agree very closely with Walker's type. The former vary slightly in colour and in the size of the discal spot, this spot being much more distinct in some examples than in others.

13. **Melipotis decreta.**

Bolina decreta, Walk. Cat. xiii. p. 1164 [1].

Hab. MEXICO, Northern Sonora (*Morrison*), Presidio (*Forrer*), Jalapa (*Höge*); HONDURAS (*Dyson* [1]).

A small species allied to *M. comprehendens* (Walk.).

14. **Melipotis bivittata.**

Bolina bivittata, Walk. Cat. xiii. p. 1156 [1].

Hab. HONDURAS (*Dyson* [1]).—VENEZUELA [1]; ANTILLES, San Domingo [1], Jamaica [1].

We include this species upon the authority of the specimen from Honduras in the British Museum.

15. **Melipotis subtilis.**

Bolina subtilis, Walk. Cat. xiii. p. 1156[1].

Hab. MEXICO, Presidio (*Forrer*).—ANTILLES, San Domingo[1].

Our specimen from Presidio agrees well with the type in the National Collection.

16. **Melipotis cellaris.**

Bolina cellaris, Guén. Sp. gén. des Lép. vii. p. 66[1]; Walk. Cat. xiii. p. 1159[2].

Bolina turbata, Walk. Cat. xiii. p. 1160[3].

Panula insipida, Feld. & Rogenh. Reise der Novara, Lep. iv. t. 112. f. 16, Erkl. der Taf. 112. no. 16[4].

Hab. MEXICO, Presidio (*Forrer*), Cuernavaca (*Bilimek*[4], *H. H. Smith*), Chilpancingo in Guerrero 4600 feet (*H. H. Smith*), Jalapa (*Schaus*); GUATEMALA, San Gerónimo (*Champion*).—COLOMBIA (?)[1 2]; VENEZUELA[3].

I am enabled to identify Guénée's species with certainty, Mons. C. Oberthür having kindly sent me the type for comparison.

17. **Melipotis marmoraris.** (Tab. XXXI. fig. 15.)

Bolina marmoraris, Guén. Sp. gén. des Lép. vii. p. 67[1]; Walk. Cat. xiii. p. 1159[2].

Hab. HONDURAS[1 2].—BRAZIL[1 2].

We are indebted to Mons. C. Oberthür for the loan of Guénée's type, and our figure is taken from this example. We have not received any specimens from our country that quite agree with it.

18. **Melipotis manipularis.**

Bolina manipularis, Guén. Sp. gén. des Lép. vii. p. 68[1]; Walk. Cat. xiii. p. 1159[2].

Bolina indomita, Walk. Cat. xiii. p. 1161[3].

Bolina ochreifascia (Harvey), Grote, Trans. Am. Ent. Soc. v. p. 117[4].

Bolina ochreipennis, Harvey, Bull. Buff. Soc. iii. p. 12, t. 2. f. 10[5].

Melipotis ochreipennis, Grote, List of North-American Moths, p. 39 (1882).

Hab. NORTH AMERICA[4], Louisiana, Texas[5].—MEXICO, Tierra Colorada 2000 feet, and Dos Arroyos 1000 feet, in Guerrero, Cuernavaca (*H. H. Smith*), Coatepec (*Brooks*), Mexico city (*Höge*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, El Reposo 800 feet, San Gerónimo (*Champion*), Guatemala city (*Rodriguez*).—BRAZIL[1 2 3].

In some parts of our country this is one of the commonest insects. Mr. Champion obtained a large number of specimens at El Reposo; these were found on the wing amongst long grass in open places in the daytime. The example received from Yucatan may belong to a distinct species; it is darker in colour and smaller, but is so much rubbed and broken that it is impossible to form an opinion without fresh specimens. I am quite unable to separate *Bolina indomita* or *B. ochreifascia* from *M. manipularis.*

19. **Melipotis evelina.**

Bolina evelina, Butl. P. Z. S. 1878, p. 487[1].

Hab. MEXICO, Cordova (*Rümeli*).—ANTILLES, Jamaica[1].

Our Mexican specimen agrees with Butler's type from Jamaica.

20. **Melipotis stolida.**

Bolina stolida, Walk. Cat. xiii. p. 1162[1].

Hab. HONDURAS (*Dyson*[1]).

The type-specimen of this species in the National Museum is the only one known to me.

21. **Melipotis agrotoides.**

Bolina agrotoides, Walk. Cat. xiii. p. 1166[1].

Bolina agrotipennis, Harvey, Bull. Buff. Soc. ii. p. 280[2].

Melipotis agrotipennis, Grote, List of North-American Moths, p. 39 (1882).

Hab. NORTH AMERICA, Texas[2].—MEXICO, Jalapa (*Höge*).—VENEZUELA[1].

A very variable species. The specimens in Grote's collection under the name of *Melipotis agrotipennis* (Harv.) are quite inseparable from Walker's type.

22. **Melipotis sinualis.**

Melipotis sinualis, Harvey, Canad. Entom. ix. p. 94[1]; Grote, List of North-American Moths, p. 39 (1882).

Hab. NORTH AMERICA, Texas[1].—MEXICO, Cuesta de Misantla (*M. Trujillo*), Cordova (*Rümeli*), Jalapa (*Schaus*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*).—COLOMBIA, Manaure.

Central-American specimens agree with those from North America in the Grote collection. A few examples only have been received; those from Teapa were captured in the month of February; those from the city of Guatemala were taken at electric light by Don Juan Rodriguez.

CIRRHOBOLINA.

Cirrhobolina, Grote, Trans. Am. Ent. Soc. v. p. 117 (1875); List of North-American Moths, p. 39 (1882).

Two species are included in *Cirrhobolina* by Grote and a third has since been added by H. Edwards, all from North America or Mexico. The genus appears to me to be extremely close to *Syneda*.

1. **Cirrhobolina deducta.**

Syneda deducta, Morr. Proc. Bost. Soc. Nat. Hist. xvii. p. 220[1].

Syneda pavitensis, Morr. loc. cit. p. 221[2].

Cirrhobolina deducta, Grote, Trans. Am. Ent. Soc. v. p. 117[3]; List of North-American Moths, p. 39 (1882)[4].

Hab. North America[4], Texas[1 2 3].—Mexico, west coast (*Mathew, in mus. D.*); Panama, near the city (*J. J. Walker*).

According to Grote[3], the two insects described by Morrison are the sexes of the same species, *Syneda deducta* being the male and *S. pavitensis* the female. I have only seen two examples of this species from Central America; the Panama specimen is darker and richer in colour than those from further north.

2. Cirrhobolina mexicana.

Syneda mexicana, Behr, Trans. Am. Ent. Soc. iii. p. 26[1].

Cirrhobolina mexicana, var. *vulpina*, Hy. Edw. Papilio, ii. p. 14[2].

Cirrhobolina incandescens, Grote, Trans. Am. Ent. Soc. v. p. 117[3]; List of North-American Moths, p. 39 (1882).

Hab. North America, Arizona[2], Texas[3].—Mexico, Northern Sonora (*Morrison*), Cosalá near Mazatlan (*Bruns*[1]).

Our specimens from Northern Sonora agree with those from Texas in the Grote collection.

Subfam. *HYPOCALINÆ.*

HYPOCALA.

Hypocala, Guénée, Sp. gén. des Lép. vii. p. 73 (1852); Walker, Cat. xiii. p. 1173.

The numerous species of this genus are widely distributed over the warmer parts of the globe. One only is known to me from our region, and this is found not uncommonly over the greater part of Tropical South America.

1. Hypocala andremona.

Phalæna Noctua andremona, Cram. Pap. Exot. iv. p. 132, t. 358. ff. C, D[1].

Parthenos andremona, Hübn. Verz. bek. Schmett. p. 278.

Hypocala andremona, Guén. Sp. gén. des Lép. vii. p. 78; Walk. Cat. xiii. p. 1173[2]; Butl. Trans. Ent. Soc. Lond. 1879, p. 47[3].

Hypocala filicornis, Guén. Sp. gén. des Lép. vii. p. 76, Noct. t. 13. f. 7[4]; Walk. Cat. xiii. p. 1174[5].

Hypocala pierreti, Guén. Sp. gén. des Lép. vii. p. 77[6]; Walk. Cat. xiii. p. 1173[7].

Hab. Honduras[4 5]; Panama, Chiriqui (*Ribbe, in mus. Staudinger*), Taboga Island (*J. J. Walker*).—Guiana, Surinam[1 2]; Ecuador; Amazons[3]; Haiti[6 7].

This species varies very much in colour and in the distinctness of the markings on the primaries. I have no doubt that the two insects described by Guénée belong to Cramer's species. From Central America we have as yet only seen two specimens.

Subfam. *CATOCALINÆ*.

CATOCALA.

Catocala, Schrank, Fauna boica, ii. 2, p. 158 (1802); Ochsenheimer, Schmett. Europ. iv. p. 94 (1816); Treitschke, Schmett. Europ. v. 3, p. 328; Guénée, Sp. gén. des Lép. vii. p. 80; Walker, Cat. xiii. p. 1179; Grote, List of North-American Moths, p. 39 (1882).

This genus contains a very large number of species distributed over Europe, Asia, and North and Central America; its head-quarters, however, would appear to be North America, no less than ninety-six being included in Grote's Check-list of 1882. From Central America three species only are known as yet.

1. **Catocala electilis.** (Tab. XXXI. fig. 8.)

Catocala electilis, Walk. Cat. xiii. p. 1209 [1].

Hab. MEXICO [1], Jalapa (*Schaus*).

The type in the National Collection and the specimen kindly lent us to figure by Mr. Schaus are all we have seen of this species.

2. **Catocala cassandra.**

Catocala cassandra, H. Edwards, Proc. Cal. Ac. vi. p. 214 (1876) [1]; Grote, List of North-American Moths, p. 40 (1882) [2].

Hab. NORTH AMERICA [2].—MEXICO, Guadalajara (*Baron Terloo* [1]).

We have not seen an example of this species. Mr. Edwards states that the secondaries are red [1].

3. **Catocala ixion,** sp. n. (Tab. XXXI. fig. 2.)

Primaries dark greyish-brown, clouded with very distinct black lines, the base of the wing greyish, a submarginal row of black spots extending from the apex to the anal angle, the fringe dark blackish-brown; secondaries bright orange, the band narrow, broadest about the middle, and extending from the costal to the inner margin, the outer margin broadly black except at the apex where it is bright yellow, this colour extending from the yellow spot to the anal angle, and round the outer margin are several small yellow spots, the fringe black and yellow; the underside yellow, with black bands, the outer margins of both wings and the apex of the secondaries yellowish-fawn-colour: head and thorax greyish-brown irrorated with black scales, the abdomen and legs greyish, the antennæ black. Expanse 3 inches.

Hab. MEXICO, Xucumanatlan in Guerrero 7000 feet (*H. H. Smith*).

This species is allied to *C. consors*, Abbot and Smith, but the primaries are darker and the black bands on the secondaries are narrower. One specimen, captured by Mr. Smith in July 1888.

Subfam. *OPHIDERINÆ*.

OPHIDERES.

Ophideres, Boisduval, Faun. ent. Madag. Bourb. et Maurice, p. 99 (1833); Guénée, Sp. gén. des Lép. vii. p. 109; Walker, Cat. xiii. p. 1217.

The species of this genus are widely distributed over the warmer parts of the globe, but are most numerous in India and the Eastern Archipelago. We have now to record two from Central America.

1. **Ophideres serpentifera.** (Tab. XXXI. fig. 14.)

Ophideres serpentifera, Walk. Cat. xiii. p. 1218 [1].

Hab. COSTA RICA (*Boucard, in mus. D.*); PANAMA, Chiriqui (*Ribbe*).—BRAZIL, Rio Janeiro [1]; ANTILLES, San Domingo [1].

The three specimens received agree perfectly with Walker's type in the British Museum. Our figure is taken from the Chiriqui example.

2. **Ophideres apta.**

Ophideres apta, Walk. Cat. xiii. p. 1221 [1]; Druce, P. Z. S. 1884, p. 323 [2].

Hab. PANAMA, Chiriqui (*Ribbe*), Bugaba 1000 feet (*Champion*).—GUIANA; AMAZONS, Santarem [1]; ANTILLES, Dominica [2].

This fine species is widely distributed in Tropical South America, but nowhere common. The specimens before me show considerable variation in colour and also in the markings of the primaries. *O. apta* closely resembles the Old-World *O. materna* (Linn.), but the primaries are always darker and the black borders of the secondaries wider.

GRAPHIGONA.

Graphigona, Walker, Cat. xiii. p. 1230 (1857).

Three species from Tropical South America were included in this genus by Walker; one of these extends northwards into Central America.

1. **Graphigona gubernatrix.**

Ophideres gubernatrix, Guén. Sp. gén. des Lép. vii. p. 118, Noct. t. 17. f. 4 [1].

Graphigona gubernatrix, Walk. Cat. xiii. p. 1230 [2].

Hab. MEXICO, Jalapa (*Schaus*).—? COLOMBIA [1]; BRAZIL [2], Rio Janeiro [2]; AMAZONS, Santarem [2].

Mr. Schaus obtained one specimen of this fine species at Jalapa; it is the only example we have seen from within the limits of our fauna.

LYGNIODES.

Lygniodes, Guénée, Sp. gén. des Lép. vii. p. 123 (1852); Walker, Cat. xiii. p. 1235.

Of the five species referred to this genus by Walker, four are from the warmer parts of Asia and one from Central and South America; Guénée included in it two only, both from India.

1. Lygniodes repellens.

Lygniodes repellens, Walk. Cat. xv. p. 1816 [1].

Hab. HONDURAS [1].—BRAZIL, Rio Janeiro [1].

Subfam. *EREBINÆ.*

HEMEROBLEMMA.

Hemeroblemma, Hübner, Verz. bek. Schmett. p. 270 (1816); Guénée, Sp. gén. des Lép. vii. p. 129; Walker, Cat. xiv. p. 1240.

Hübner placed five species under this generic name, all of them from Tropical America or the Antilles; one only of these is known to me from north of the Isthmus of Panama.

1. Hemeroblemma dolosa.

Phalæna Noctua dolon, Cram. Pap. Exot. ii. p. 8, t. 101. f. F [1].

Hemeroblemma dolon, Hübn. Verz. bek. Schmett. p. 270.

Hemeroblemma dolosa, Hübn. loc. cit.; Walk. Cat. xiv. p. 1241 [2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 419 [3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 41 [4].

Hemeroblemma encausticata, Guén. Sp. gén. des Lép. vii. p. 130 [5].

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*), Chiriqui (*Ribbe; Trötsch, in mus. Staudinger*).—GUIANA, Cayenne [2 5], Surinam [1 2 3 4 5]; BRAZIL [2], Bahia [5].

We are now enabled to trace this rare insect northwards to the State of Panama. Chiriqui specimens are not nearly so dark in colour as Cramer's figure, but they have the markings almost similar; I have not the slightest doubt but that they belong to the same species.

PEOSINA.

Peosina, Guénée, Sp. gén. des Lép. vii. p. 131 (1852); Walker, Cat. xiv. p. 1242.

Walker included ten species in *Peosina*, all from Central and South America or the Antilles; and others have since been described by various authors. Four are now recorded from within the limits of our fauna, each of these being widely distributed in Tropical America.

1. Peosina mexicana.

Peosina mexicana, Guén. Sp. gén. des Lép. vii. p. 132, Noct. t. 19. f. 2 [1]; Walk. Cat. xiv. p. 1243 (pars) [2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 419 [3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 41 [4].

? *Peosina saundersii*, Guén. Sp. gén. des Lép. vii. p. 133 [5]; Walk. Cat. xiv. p. 1244 [6].

Hab. MEXICO [1 2]; GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); HONDURAS (*Dyson* [2]); NICARAGUA, Chontales (*Belt*); COSTA RICA (*Gabb, in mus. D.*), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.*).—GUIANA, Paramaribo [3 4]; BRAZIL [6], Bahia [5].

This species, though found over an extended range of country, is apparently rare. According to Butler (P. Z. S. 1879, p. 487), the specimens from San Domingo referred by Walker [2] to *P. mexicana*, Guén., belong to *P. numeria* (Drury).

2. Peosina numeria.

Phalæna Noctua numeria, Drury, Ill. Exot. Ins. i. p. 48, t. 23. f. 5 [1].

Peosina numeria, Guén. Sp. gén. des Lép. vii. p. 132 [2]; Walk. Cat. xiv. p. 1243 (pars) [3]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 192 (sep. copy, p. 30) [4]; Butl. P. Z. S. 1878, p. 487 [5].

Hab. Mexico, Jalapa (*Schaus*); Panama, Chiriqui (*Ribbe*).—Antilles, Jamaica [1 2 3], Cuba [4], San Domingo (*apud Butler* [5]); Brazil, Santa Catarina.

One specimen, a male, of this species was sent by Ribbe from Chiriqui; it agrees well with Drury's figure and also with examples from Jamaica in my own collection. The female is much larger than the male, and is without the white bands on the primaries and the white spot at the apex of the secondaries. *P. numeria* is closely allied to *P. mexicana*. The Venezuelan example treated by Walker [3] as belonging to this species is quite distinct according to Butler [5], who proposes the name *Hypogramma confusa* for it.

3. Peosina leontia.

Phalæna Noctua leontia, Stoll, Suppl. Cram. Pap. Exot. v. p. 155, t. 34. f. 6 [1].

Peosina leontia, Guén. Sp. gén. des Lép. vii. p. 132 [2]; Walk. Cat. xiv. p. 1244 [3]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 419 [4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 41 [5].

Hab. Nicaragua, Chontales (*Belt*).—Guiana [2], Surinam [4 5]; Brazil [2], Rio Janeiro [1 3]; Trinidad.

The single specimen received from Central America does not differ from others from Trinidad in my own collection, and they all agree well with Stoll's figure; but I have not seen examples from the South-American continent.

4. Peosina pandrosa.

Phalæna Noctua pandrosa, Cram. Pap. Exot. i. p. 122, t. 77. f. D [1].

Noctua pandrosa, Fabr. Sp. Ins. ii. p. 200.

Blosyris pandrosa, Hübn. Verz. bek. Schmett. p. 273.

Peosina pandrosa, Guén. Sp. gén. des Lép. vii. p. 134 [2]; Walk. Cat. xiv. p. 1246 [3]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 192 (sep. copy, p. 30) [4]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 419 [5]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 41 [6].

Hab. Costa Rica (*Van Patten*); Panama, Chiriqui (*Ribbe*).—Guiana [2], Surinam [1 3 5 6]; Brazil (?) [3]; Amazons, Pará; Trinidad; Antilles, Cuba [4].

Of this species we have as yet only received two specimens, both males, from within the limits of our fauna.

BLOSYRIS.

Blosyris, Hübner, Verz. bek. Schmett. p. 273 (1816); Guénée, Sp. gén. des Lép. vii. p. 135 (1852); Walker, Cat. xiv. p. 1246.

Thermesia, Hübner, Verz. bek. Schmett. p. 270 (partim).

Walker included nine species in this genus, seven of them from Tropical America and two from Tropical or Southern Africa; of these latter, one does not belong to the genus and the other is doubtfully of African origin. From Central America we have now to record five species.

Blosyris is extremely close to *Peosina*, from which it chiefly differs in the slightly longer and narrower primaries.

1. Blosyris acron.

Phalæna Noctua acron, Cram. Pap. Exot. iii. p. 59, t. 227. f. B [1].

Blosyris acron, Guén. Sp. gén. des Lép. vii. p. 138 [2]; Walk. Cat. xiv. p. 1247 [3].

Thermesia acronias, Hübn. Verz. bek. Schmett. p. 270.

Hab. PANAMA, Chiriqui (*Ribbe*).—GUIANA, Berbice [1 2 3].

The specimen received from Ribbe is the only one we have seen from Central America; it differs from Cramer's figure in being not quite so dark in colour.

2. Blosyris gootenaria.

Phalæna Geometra gootenaria, Cram. Pap. Exot. iii. p. 102, t. 252. f. B [1].

Thermesia gotenaaria (sic), Hübn. Verz. bek. Schmett. p. 270.

Blosyris gootenaria, Guén. Sp. gén. des Lép. vii. p. 136 [2]; Walk. Cat. xiv. p. 1248 [3].

Peosina gootenaria, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 420 [4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 42 [5].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Surinam [1 2 3], Paramaribo [4 5]; BRAZIL, Rio Janeiro [3].

The only specimens we have seen from within the limits of our fauna are those in Dr. Staudinger's collection; they agree perfectly with Cramer's figure.

3. Blosyris abadirina.

Thermesia abadirina, Hübn. Zutr. Samml. exot. Schmett. ii. p. 12, ff. 237, 238; Verz. bek. Schmett. p. 270.

Blosyris abadirina, Guén. Sp. gén. des Lép. vii. p. 137 [1]; Walk. Cat. xiv. p. 1248 [2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 192 (sep. copy, p. 30) [3]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 420 [4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 42 [5].

Erebus junonius, Perty, Del. Anim. Art. Brasil, p. 161, t. 32. f. 8 (♀) [6].

Hab. MEXICO, Paso de San Juan (*Schaus*); PANAMA, Chiriqui (*Ribbe*).—GUIANA [1], Surinam [2 4 5]; BRAZIL [1 6]; ANTILLES, Cuba [3].

This species varies considerably in colour, some examples being paler than others;

we have not, however, seen a specimen so pale as represented by Perty. From Central America we have only received two specimens, one from Mexico and one from Chiriqui.

4. **Blosyris lusciniæpennis.**

Blosyris lusciniæpennis, Guén. Sp. gén. des Lép. vii. p. 139[1]; Walk. Cat. xiv. p. 1249[2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 420[3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 42[4].

Brujas incedens, Walk. Cat. xiv. p. 1256[5].

Brujas despecta, Walk. Cat. xv. p. 1819[6].

Blosyris despecta, Butl. Trans. Ent. Soc. Lond. 1879, p. 48[7].

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR, Sarayacu; GUIANA, Cayenne[1 2], Paramaribo[3 4]; AMAZONS, Pará[1 5], Abacaxis River[7]; BRAZIL[1 2], Santa Catarina; WEST COAST OF AMERICA[5].

A specimen captured by Mr. Champion and another in Dr. Staudinger's collection, both from Chiriqui, are all we have seen from our region of this species; it is not uncommon in Tropical South America, whence we possess a good series of examples.

5. **Blosyris turdipennis.**

Blosyris turdipennis, Guén. Sp. gén. des Lép. vii. p. 138[1]; Walk. Cat. xiv. p. 1249[2].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Cayenne[1 2].

We include this species upon the authority of an example from Chiriqui in Dr. Staudinger's collection. It is not improbable that *B. turdipennis* may prove to be not distinct from *Phalæna Noctua scolopacea,* Cram.

BRUJAS.

Brujas, Guénée, Sp. gén. des Lép. vii. p. 139 (1852); Walker, Cat. xiv. p. 1250.

Blosyris, Hübner, Verz. bek. Schmett. p. 273 (partim).

Fourteen species were placed in this genus by Walker, all of them from Tropical America or the Antilles; and others have since been described by various authors. We have now to enumerate six species from Central America.

1. **Brujas infans.**

Brujas infans, Guén. Sp. gén. des Lép. vii. p. 141[1]; Walk. Cat. xiv. p. 1250[2].

Hab. MEXICO[1 2].

This species was described from three very faded specimens. Mons. C. Oberthür informs me that the types are not to be found, and that they were most probably destroyed during the later years of Guénée's life, when his collection was much neglected.

2. **Brujas circe.** (Tab. XXXI. fig. 11.)

Brujas circe, Guén. Sp. gén. des Lép. vii. p. 141 [1]; Walk. Cat. xiv. p. 1251 [2].

Hab. Mexico [1 2]; Panama, Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

We are indebted to Mons. C. Oberthür for kindly lending us the type of this species, which we now figure. It is allied to *B. malitiosa*, Guén. [=*opigena*, Hübn. (nec Drury)], but is a much smaller insect.

3. **Brujas malitiosa.**

Blosyris opigena, Hübn. Samml. exot. Schmett. t. 211. ff. 1–4; Verz. bek. Schmett. p. 373 (nec Drury).

Brujas malitiosa, Guén. Sp. gén. des Lép. vii. p. 140 [1]; Walk. Cat. xiv. p. 1253 [2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 420 [3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 42 [4].

Hab. Guatemala, Zapote, Panima (*Champion*); Panama, Chiriqui (*Ribbe*), Bugaba (*Champion*).—Guiana, Surinam [3 4]; Brazil [1 2].

We have only received a few specimens of this well-marked species.

4. **Brujas rengus.**

Erebus rengus, Poey, Cent. Lép. Cuba, Decade (1832) [1].

Brujas rengus, Guén. Sp. gén. des Lép. vii. p. 142 [1]; Walk. Cat. xiv. p. 1252 [3].

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Antilles, Cuba [1 2 3], San Domingo [3].

We include this species upon the authority of a specimen from Chiriqui in Dr. Staudinger's collection.

5. **Brujas bigutta.**

Brujas bigutta, Walk. Journ. Linn. Soc., Zool. ix. p. 187 [1].

Brujas festonata, Feld. & Rogenh. Reise der Novara, Lep. t. 114. f. 1, Erkl. der Taf. 114. no. 1 [2].

Hab. Mexico (*Bilimek* [2]), Presidio (*Forrer*), Teapa in Tabasco (*H. H. Smith*); Guatemala, Coatepeque (*Champion*); Panama, Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Colombia, Bogota [1]; East Peru.

The type of *B. bigutta,* Walk., is now in my own collection; and I have no doubt that Felder and Rogenhofer's insect is conspecific with it.

Our specimens are darker in colour than the figure of *B. festonata*, but they have the markings quite similar.

6. **Brujas repandens.**

Brujas repandens, Walk. Cat. xiv. p. 1257 [1].

Peosina (?) *thalia,* Feld. & Rogenh. Reise der Novara, Lep. t. 114. f. 3, Erkl. der Taf. 114. no. 3 [2].

Hab. Mexico, Jalapa (*Schaus*); Guatemala, Volcan de Atitlan 2500 to 3500 feet, Zapote (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Amazons [2], Pará [1].

Central-American specimens agree with Walker's type in the National Collection, and also with Felder and Rogenhofer's figure of *Peosina thalia*; but they are slightly darker in colour than *P. thalia*.

SYPNA.

Sypna, Guénée, Sp. gén. des Lép. vii. p. 144 (1852); Walker, Cat. xiv. p. 1260.

Walker included four species in this genus, and many others have since been described by Butler and Moore, all of them from the warmer parts of the Eastern Hemisphere. We have now to add one species from Central America.

1. **Sypna æxonia,** sp. n. (Tab. XXXII. fig. 3.)

Primaries dark reddish-brown irrorated with black scales, crossed in the middle by a wide paler brown band (which becomes still wider on the costal margin, and has its outer edge very uneven), and with a narrow indistinct pale line crossing from the costal to the inner margin, a pale brown spot edged with black close to the anal angle, and a submarginal row of black dots which extends from the apex to the anal angle; secondaries dark brown, with some blackish-brown marks at the anal angle and a submarginal row of black dots; the fringe of both wings dark brown; the underside greyish-brown irrorated with black scales, a faint fawn-coloured spot at the end of the cell on the primaries: head, thorax, abdomen, antennæ, and legs dark brown. Expanse $2\frac{1}{2}$ inches.

Hab. Mexico, Jalapa (*F. D. G., Höge*).

Three examples, two captured by Mr. Godman and one by Herr Höge.

RAMPHIA.

Ramphia, Guénée, Sp. gén. des Lép. vii. p. 142 (1852); Walker, Cat. xiv. p. 1258.

This genus is allied to *Letis*, from which it may be at once distinguished by the pectinated antennæ in the male and by the shorter and rounder primaries. Guénée included in it three species from Tropical South America, and these now prove to be forms of one variable insect, which ranges from South Brazil to Yucatan; a fourth species was described by Walker, *R. nymphaloides*, from the Amazons.

1. **Ramphia albizona.**

Noctua albizona, Latr. in Humb. et Bonpl. Obs. Zool. ii. p. 136, t. 43. ff. 5, 6 (1811)[1].

Ramphia albizona, Guén. Sp. gén. des Lép. vii. p. 143, Noct. t. 19. f. 3[2]; Walk. Cat. xiv. p. 1259[3]; Feld. Reise der Novara, Lep. t. 114. f. 5, Erkl. der Taf. 114. no. 5[4]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 423[5]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 45[6].

Ramphia amarygma, Guén. Sp. gén. des Lép. vii. p. 144[7]; Walk. Cat. xiv. p. 1259[8].

Rhamphia evinga, Guén. Sp. gén. des Lép. vii. p. 143[9]; Walk. Cat. xiv. p. 1258[10].

Brujas basicincta, Walk. Cat. xiv. p. 1251[11].

Hab. Mexico, Yucatan [11], Valladolid in Yucatan (*Gaumer*); Guatemala, Rio Naranjo,

Pantaleon 1700 feet (*Champion*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui [5 6] (*Arcé, in mus. D.*; *Ribbe & Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—SOUTH AMERICA [1]; COLOMBIA [2 3], Manaure, Bogota; VENEZUELA [8]; BOLIVIA [2]; GUIANA, Demerara [4], Paramaribo [5 6]; AMAZONS [11], Pará [3 7]; BRAZIL [9 10], Pernambuco, Santa Catarina.

This species varies to a very great extent in both sexes; and of the seventeen examples before me no two of them are exactly alike. I have not the slightest doubt that *R. evinga*, Guén. (= *Brujas basicincta*, Walk.), is the male of *R. albizona*. A female specimen received from Guatemala has the typical white spots at the apex and at the anal angle of the primaries, the white band only being indicated by a few white dots on the costal margin and at the end of the cell, and the white band on the secondaries almost wanting, but marked by two rows of small white spots. The example from Nicaragua is almost entirely brown, excepting a small white spot at the end of the cell and those at the apex and anal angle of the primaries, these spots being considerably smaller than they are in any other specimen before me. A male from Chiriqui in Dr. Staudinger's collection has the white band of the female marked by a white line. *R. amarygma*, Guén., has a narrower white band than typical *R. albizona*, and is, without doubt, only a slight variety of that species.

LETIS.

Letis, Hübner, Verz. bek. Schmett. p. 274 (1816); Guénée, Sp. gén. des Lép. vii. p. 145; Walker, Cat. xiv. p. 1263.

Numerous representatives of this genus inhabit Central and South America and the Antilles; and a large number have been described, in several cases the sexes as distinct species, by various authors. Twelve are now recorded from within the limits of our fauna.

1. Letis scops.

Letis scops, Guén. Sp. gén. des Lép. vii. p. 155 [1]; Walk. Cat. xiv. p. 1271 [2].

Letis alauda, Guén. Sp. gén. des Lép. vii. p. 154 [3]; Walk. Cat. xiv. p. 1270 [4]; Butl. Trans. Ent. Soc. Lond. 1879, p. 49 [5]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 423 [6]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 45 [7].

Letis trailii, Butl. Trans. Ent. Soc. Lond. 1879, p. 49 [8].

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, Zapote (*Champion*); NICARAGUA, Chontales (*Belt*); COSTA RICA (*Van Patten*); PANAMA, Volcan de Chiriqui 2000 to 6000 feet (*Champion*).—ECUADOR; GUIANA, Paramaribo [6 7]; AMAZONS [5 8], Tapajos [2]; BRAZIL [2 3 4]; (?) CHILI [3 4]; URUGUAY, Monte Video [1 2]; TRINIDAD; ANTILLES, Jamaica.

This insect is allied to *L. specularis*, the type of Hübner's genus *Letis*. It is found over a very extended range of country, and is subject to a considerable amount of variation in colour, more especially in the female sex. Some specimens have the hind

wings much marked with white lines. The female example received from Nicaragua has more white on the secondaries than any of the others I have seen. An individual of the same sex not quite so pale as this, from the Amazons, was supposed by Mr. Butler to be a different species and described by him as *L. trailii*; the two other specimens that came in the same collection, and which were identified by Mr. Butler as the sexes of *L. alauda*, are both females, one of them being darker than the other; on the underside these three examples show very little variation, and upon comparison with the underside of the male it will at once be apparent that they are the same sex of one species. Specimens from Trinidad are slightly darker in colour in both sexes and also rather smaller, but in other respects they agree with those from South America. An example from Jamaica does not differ from others from Ecuador. The locality "Chili," given by Guénée for *L. alauda* [3], requires confirmation, as we have no other evidence of the genus *Letis* being represented in that country.

2. Letis falco.

Letis falco, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 425 [1]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 46 [2].

Hab. PANAMA, Chiriqui [1 2].—GUIANA, Paramaribo [1 2].

This species is quite unknown to me; it was described by Möschler from two males and four females from Paramaribo and one female from Chiriqui.

3. Letis mycerina.

Noctua mycerina, Fabr. Sp. Ins. ii. p. 210; Mant. Ins. ii. p. 135.

Phalæna Attacus mycerina, Cram. Pap. Exot. ii. p. 115, t. 172. f. B [1].

Syrnia mycerina, Hübn. Verz. bek. Schmett. p. 273.

Letis mycerina, Guén. Sp. gén. des Lép. vii. p. 150 [2]; Walk. Cat. xiv. p. 1265 [3]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 423 [4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 45 [5].

Letis nycteis, Guén. Sp. gén. des Lép. vii. p. 150 [6]; Walk. Cat. xiv. p. 1265 [7].

Letis atricolor, Guén. Sp. gén. des Lép. vii. p. 151 [8]; Walk. Cat. xiv. p. 1266 [9]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 423 [10]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 45 [11].

Letis abrupta, Walk. Cat. xiv. p. 1272 [12].

Hab. MEXICO, Cordova (*Rümeli*), Jalapa (*Schaus*); GUATEMALA, Coban (*Conradt*), Panzos, Volcan de Atitlan 2500 to 3500 feet (*Champion*); HONDURAS (*Dyson* [9]); COSTA RICA (*Van Patten, in mus. D.*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Arcé, Ribbe*).—COLOMBIA; VENEZUELA [12]; ECUADOR; GUIANA, Surinam [1 3 4 5 10 11], Cayenne [2 8]; BRAZIL [2]; WEST COAST OF AMERICA [7 9]; AMAZONS, Pará [9]; ANTILLES, San Domingo [3 7 8 9].

This insect is found over a very wide range of country, from Mexico to South Brazil, and also extends to the West Indian Islands. It varies very much, but it does not appear from the large series of specimens before me to be at all constant in any one locality; the darkest form is that from San Domingo, but even from that island several

examples show considerable variation. In our country it is fairly common, and the specimens from the more northern localities are the darkest. Owing to the sexes being so different on the upperside, the insect has been described under four different names; but with the series before me I have no doubt that they all belong to one very variable species.

The locality for *L. nycteis* was unknown to Guénée[6]; but Walker[7] subsequently called examples from the West Coast of America and San Domingo by that name.

4. **Letis xylia.**

Letis xylia, Guén. Sp. gén. des Lép. vii. p. 153[1]; Walk. Cat. xiv. p. 1264[2].

Hab. Mexico [1 2], Coatepec (*Brooks*), Cordova (*Rümeli*), Jalapa (*Schaus*); Guatemala, San Gerónimo, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—Venezuela [2].

This insect is common in Mexico. The wings are similarly marked in both sexes.

5. **Letis fusa.**

Letis fusa, Guén. Sp. gén. des Lép. vii. p. 151[1]; Walk. Cat. xiv. p. 1265[2].

Letis aptissima, Walk. Cat. xiv. p. 1272[3].

Hab. Mexico, Paso de San Juan (*Schaus*), Coatepec (*Brooks*); Panama, Chiriqui (*Arcé, mus. D.*; *Ribbe*), Volcan de Chiriqui (*Champion*).—Colombia, Bogota; Antilles, St. Thomas [1 2].

A distinct, well-marked, and apparently rare species. The specimen from an unknown locality described by Walker under the name of *Letis aptissima*[3] is, without doubt, the female of *L. fusa*; the latter may prove to be not distinct from *Noctua magna*, Gmel.

6. **Letis vultura**, sp. n. (Tab. XXXII. figg. 1 ♂, 2 ♀.)

Male. Primaries and secondaries dark ochraceous-brown; the primaries clouded with darker brown near the apex and on the inner margin near the anal angle, and crossed from the costal to the inner margin by five indistinct zigzag dark brown lines, the orbicular and reniform spots dark brown edged with black, a waved marginal black line extending from the apex to the anal angle; the secondaries crossed from the costal to the inner margin by several indistinct waved lines and with a wide dark-coloured submarginal band edged on the outer side with a pale ochreous line, the outer margin edged with two narrow waved black lines; the fringe of both wings dark brown; the underside greyish-brown irrorated with black scales, with the lines very similar to those above: head, thorax, and abdomen above dark blackish-brown, beneath considerably paler in colour; antennæ and palpi dark brown; legs pale brown.

Female. Primaries pale ochreous-brown, clouded with dark brown at the apex along the outer margin and at the anal angle, the basal half of the wing crossed by faint zigzag brown lines; secondaries dark brown, with a wide pale ochreous band extending from near the apex on the costal margin to the inner margin; both wings with a submarginal black waved line extending from the apex to the anal angle; the underside as in the male: head, thorax, and abdomen dark brown, the collar and the base of the abdomen paler brown, the underside and the legs greyish-brown, the antennæ and palpi dark brown. Expanse, ♂ $3\frac{1}{2}$, ♀ $3\frac{3}{4}$ inches.

Hab. British Honduras (*Blancaneaux*); Guatemala, Volcan de Atitlan 2500 feet (*Champion*); Panama, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

Our figures represent a male and a female from the Volcan de Chiriqui. Four specimens only have been received.

7. **Letis herilia.**

Phalæna Noctua herilia, Cram. Pap. Exot. iv. p. 39, t. 309. ff. A, B, C[1].

Letis herilia, Guén. Sp. gén. des Lép. vii. p. 147[2]; Walk. Cat. xiv. p. 1268[3]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 423[4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 45[5].

Blosyris hersilia, Hübn. Verz. bek. Schmett. p. 273.

Letis securivitta, Walk. Journ. Linn. Soc., Zool. ix. p. 187[6].

Hab. MEXICO, Jalapa (*Schaus*); GUATEMALA, in the city (*Rodriguez*), Zapote, San Gerónimo (*Champion*); HONDURAS (*Schenck, in mus. Staudinger*); NICARAGUA, Chontales (*Belt*); PANAMA, Bugaba, Volcan de Chiriqui 3000 to 4000 feet (*Champion*), Chiriqui (*Arcé, Ribbe*).—COLOMBIA, Bogota[6]; GUIANA, Surinam[1 2 3 4 5]; ECUADOR, Sarayacu.

This insect appears to be not uncommon in Central America; it does not show any amount of variation, except that some specimens are slightly darker in colour than others. *Letis securivitta*, Walk., from Bogota, the type of which, a female, is now in my own collection, is not separable from *L. herilia.* An example obtained by Buckley in Ecuador differs from all the others before me in having the secondaries of a uniform brown colour, the pale yellowish patch at the apex excepted; but on the underside it closely resembles the specimens from Guatemala and the State of Panama.

8. **Letis orcynia,** sp. n. (Tab. XXXII. figg. 4 ♂, 7 ♀.)

Male. Primaries pale brown, clouded with darker brown near the apex and at the anal angle, with a wide white uneven band crossing the wing beyond the middle from the costal to the inner margin, across which is a narrow line of black lunular-shaped marks, and some white markings close to the apex and at the anal angle, the submarginal line black; secondaries pale brown, crossed from the costal to the inner margin with darker brown lines, between which are several white lines, and with a large white spot at the apex, below which are two white streaks, the submarginal and the marginal lines dark brown; the underside pale greyish-brown, banded with white and dark brown; the fringe of both wings greyish-brown: head, thorax, and abdomen pale brown, the antennæ and palpi dark brown. The female differs from the male in being considerably larger, much richer in colour, and with the markings much more distinct; on the underside it resembles the male, but is darker in colour. Expanse, ♂ $3\frac{3}{4}$, ♀ $4\frac{1}{4}$ inches.

Hab. MEXICO, Cuesta de Misantla (*M. Trujillo*), Cordova (*Höge*), Jalapa (*Schaus*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 4000 feet (*Champion*).—ECUADOR.

Of this species we have one male and four females before us; the females from Chiriqui are paler and slightly redder in colour than those from Mexico, and they have the white markings on the primaries narrower.

A male from Cordova and a female from Cuesta de Misantla are figured.

9. Letis buteo.

Letis buteo, Guén. Sp. gén. des Lép. vii. p. 152[1]; Walk. Cat. xiv. p. 1270[2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 423[3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 45[4].
Letis vittifera, Walk. Cat. xiv. p. 1273[5].
Letis integra, Walk. Cat. xiv. p. 1273[6]; Butl. Trans. Ent. Soc. Lond. 1879, p. 49[7].
Letis albicans, Walk. Cat. xiv. p. 1274[8].
Syrnia letiformis, Guén. Sp. gén. des Lép. vii. p. 158[9]; Walk. Cat. xiv. p. 1278[10].

Hab. MEXICO, Cordova (*Rümeli*), Jalapa (*Schaus*), Coatepec (*Brooks*), Omealca near Orizaba (*M. Trujillo*), Mexico city (*Boucard, in mus. D.*); GUATEMALA, San Gerónimo, Volcan de Atitlan 2500 to 3500 feet (*Champion*); NICARAGUA, Chontales (*Belt*); COSTA RICA (*Gabb, in mus. D.*); PANAMA, Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA[5]; GUIANA, Surinam[3 4], Cayenne[9 10], Demerara[10]; AMAZONS[7 10], Tabatinga; BRAZIL[1 2], Pernambuco[2], Rio Janeiro[6 8]; TRINIDAD.

This widely-distributed insect appears to be fairly common in most of the above-mentioned localities. It is subject to great variation in colour, and has been described under no less than five different names; but with the large series of specimens before me, including those in the National Collection and Walker's types[6 8] from Mr. Fry's collection (now in the possession of Mr. Butler, who has kindly allowed me to examine them), I am quite unable to recognize more than one variable species. *Letis albicans*, Walk., is nothing but a bleached example of *L. buteo*. So far as the numerous specimens before me show, the insect is not constant either in colour or marking in any one locality. The underside of the wings shows very little variation, though that of the female is generally rather darker than that of the male; it is, however, more highly coloured in the examples from Costa Rica and the State of Panama than in those from Mexico, Guatemala, or Brazil.

10. Letis cortex.

Letis cortex, Guén. Sp. gén. des Lép. vii. p. 152, Noct. t. 17. f. 1 (♀)[1]; Walk. Cat. xiv. p. 1270[2].

Hab. MEXICO, Cordova (*mus. Staudinger*).—BRAZIL[1 2].

The specimen from Cordova under this name in Dr. Staudinger's collection is a male. It is not very like Guénée's indifferent figure of the female of *L. cortex*; but the latter is represented with an imaginary body which is erroneously coloured yellow.

11. Letis confundens.

Syrnia confundens, Walk. Cat. xiv. p. 1279[1].
Letis confundens, Butl. Trans. Ent. Soc. Lond. 1879, p. 50[2].

Hab. MEXICO, Jalapa, Paso de San Juan (*Schaus*).—COLOMBIA, Bogota; AMAZONS[2], Pará; WEST COAST OF AMERICA[1]; TRINIDAD.

The specimens in Mr. Schaus's collection are the only ones we have seen from Central America.

12. Letis hypnois.

Syrnia hypnois, Hübn. Samml. exot. Schmett. ii. t. 210. ff. 3, 4; Verz. bek. Schmett. p. 273; Guén. Sp. gén. des Lép. vii. p. 157[1]; Walk. Cat. xiv. p. 1277[2].

Hab. Mexico, Coatepec (*Brooks*), Jalapa (*Schaus*); British Honduras, Belize, Cayo (*Blancaneaux*); Guatemala, Las Mercedes (*Champion*), Coban (*Conradt*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Colombia [1 2]; Amazons, Pará [2]; Brazil [1 2], Santa Catarina.

From Central America we have only received a few specimens of this fine species. I have not the least doubt that it is a *Letis*.

LATEBRARIA.

Latebraria, Guénée, Sp. gén. des Lép. vii. p. 159 (1852); Walker, Cat. xiv. p. 1281.

In Central America this genus is represented by one species. Walker, in his Catalogue, included six in it; at least three of these belong to other genera or to previously known species. The two species described by Guénée are from Tropical America or the Antilles.

1. Latebraria amphipyroides.

Latebraria amphipyroides, Guén. Sp. gén. des Lép. vii. p. 159, Noct. t. 17. f. 2[1]; Walk. Cat. xiv. p. 1282[2].

Latebraria errans, Walk. Cat. xiv. p. 1281[3].

Hab. Mexico, Jalapa (*Schaus*), Coatepec (*Brooks*), Omilteme in Guerrero 8000 feet (*H. H. Smith*), Yucatan[3], Valladolid in Yucatan (*Gaumer*); Guatemala, Las Mercedes 3000 feet, Panzos in Vera Paz (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—Colombia [1 2]; Venezuela [3]; Ecuador; Brazil [1 2]; West coast of America [3]; Antilles, Cuba [1 2].

This species varies considerably in colour, some examples being much paler than others; in our region it is a fairly common insect. Mr. Smith met with it in the month of August.

CYCLOPIS.

Cyclopis, Hübner, Verz. bek. Schmett. p. 274 (1816); Guénée, Sp. gén. des Lép. vii. p. 165; Walker, Cat. xiv. p. 1288.

The single species of this genus found in our region appears to be very common in Guatemala, but from the State of Panama we have as yet only received one specimen.

1. Cyclopis cæcutiens.

Cyclopis cæcutiens, Hübn. Samml. exot. Schmett. ii. t. 213. ff. 3, 4; Verz. bek. Schmett. p. 274; Guén. Sp. gén. des Lép. vii. p. 166[1]; Walk. Cat. xiv. p. 1288[2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 429[3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 51[4].

Hab. GUATEMALA, Zapote, Pantaleon 1700 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA [2]; GUIANA, Surinam [3 4]; BRAZIL [1 2].

This species varies slightly; in some of the specimens before us the white spots on the secondaries are almost obsolete, in others they are very distinct; none of them show any indication of the yellow colour represented on Hübner's figure.

THYSANIA.

Thysania, Dalman, Kongl. Vet.-Acad. Handl. 1824, p. 407; Guénée, Sp. gén. des Lép. vii. p. 163; Walker, Cat. xiv. p. 1286.

This genus includes the largest known Noctuæ. Two of its species are very widely distributed, and found not uncommonly all over the tropical regions of America, one of them also extending to the West-Indian Islands; the third, which is here described, is known to me as yet only from Costa Rica.

1. **Thysania zenobia.**

Phalæna Attacus zenobia, Cram. Pap. Exot. ii. p. 27, t. 115. ff. A, B [1].

Phalæna Bombyx zenobia, Drury, Ill. Exot. Ins. iii. p. 54, t. 39.

Noctua zenobia, Fabr. Sp. Ins. ii. p. 209; Mant. Ins. ii. p. 135; Ent. Syst. iii. p. 28.

Phalæna Noctua zenobia, Gmel. ed. Syst. Nat. i. 5, p. 2529.

Syrnia zenobia, Hübn. Verz. bek. Schmett. p. 273.

Thysania zenobia, Guén. Sp. gén. des Lép. vii. p. 163 [2]; Walk. Cat. xiv. p. 1287 [3]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 192 (sep. copy, p. 30) [4]; Butler, P. Z. S. 1878, p. 488 [5]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 49 [6]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 51 [7]; Grote, List of North-American Moths, p. 42 (1882) [8].

Hab. NORTH AMERICA [8].—MEXICO [3], Coatepec (*Brooks*), Cordova (*Rümeli*), Jalapa (*Schaus*), Omealca near Orizaba (*M. Trujillo*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, in the city (*Rodriguez*); NICARAGUA, Chontales (*Belt*); COSTA RICA (*Gabb, in mus. D.*); PANAMA, Bugaba, David (*Champion*).—COLOMBIA, Manaure; GUIANA [2], Surinam [1 3 6 7]; BRAZIL [2 3], Santa Catarina; TRINIDAD; ANTILLES, San Domingo [3], Jamaica [2 5], Cuba [4].

This species appears to be not uncommon in Central America. It varies a little in coloration, some specimens being much more heavily marked than others; freshly emerged individuals are of a beautiful pink colour on the underside. The insect was described and figured by Drury from a Jamaica specimen.

Examples of this species, and of *T. agrippina* also, have recently been captured by Señor Rodriguez at the electric light in the city of Guatemala.

2. **Thysania tiasa,** sp. n. (Tab. XXXII. fig. 10.)

Primaries and secondaries ochraceous-brown; the primaries clouded on the costal, outer, and inner margins with dark blackish-brown, and crossed from the costal to the inner margin by numerous indistinct waved lines (those nearest the base the widest), and with a submarginal row of lunular-shaped black marks extending from the apex to the anal angle, the orbicular and reniform spots dark brown edged with

black; the secondaries clouded with blackish-brown from the base to about the middle, and crossed from the costal to the inner margin by three very indistinct brown zigzag lines, below which are bands of black lunular-shaped markings, and between these latter a wide dark slate-coloured band extending from the costal to the inner margin and a submarginal row of black markings; the underside pale ochreous-yellow, with five zigzag black bands crossing both wings, the fourth band from the base being the widest: head, thorax,and abdomen dark blackish-brown above, pale ochreous beneath, the legs pale ochreous, the antennæ and palpi dark brown. Expanse $5\frac{1}{4}$ inches.

Hab. Costa Rica (*Van Patten*).

Allied to *T. zenobia* (Cram.), from which it may be at once distinguished by the entirely different colour of both the upper and undersides. One specimen only has been received.

3. Thysania agrippina.

Phalæna Noctua agrippina, Cram. Pap. Exot. i. p. 136, t. 87. f. A, and p. 138, t. 88. f. A[1].

Thysania agrippina, Guén. Sp. gén. des Lép. vii. p. 164[2]; Walk. Cat. xiv. p. 1287[3]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 429[4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 51[5].

Noctua strix, Fabr. Sp. Ins. ii. p. 209; Mant. Ins. ii. p. 135.

Phalæna Noctua strix, Gmel. ed. Syst. Nat. i. 5, p. 2529.

Syrnia strix, Hübn. Samml. exot. Schmett. ii. tabb. 207, 208.

See also: Merian, Surin. Ins. p. 15, t. 20; Seba, Mus. iv. t. 39. ff. 12, 14, and t. 57. ff. 7, 9.

Hab. Mexico, Jalapa (*Schaus*); Guatemala, in the city (*Rodriguez*), San Gerónimo (*Champion*); Nicaragua, Chontales (*Belt*); Costa Rica (*Van Patten*); Panama, Bugaba 800–1500 feet, Volcan de Chiriqui 4000 feet (*Champion*), Chiriqui (*Arcé; Ribbe, in mus. Staudinger*).—Ecuador, Sarayacu; Guiana, Roraima, Surinam[1 2 4 5]; Brazil[3].

This is the largest known species of the Noctuæ: several of the specimens before me measure a little over twelve inches from tip to tip of the primaries. It varies considerably in colour, some examples being much darker than others, and also shaded with brown; others again are almost white, with the lines only black. The underside is more or less shot with a rich dark blue colour.

Mr. Champion informs me that this gigantic insect is common in the month of April on the tree-trunks in the dense forest about the Volcano of Chiriqui, at an elevation of 4000 feet. It rests with the wings horizontally extended.

EREBUS.

Erebus, Latreille, Consid. gén. class. Crust., Arachn. et Ins. p. 365 (1810); Guénée, Sp. gén. des Lép. vii. p. 166; Walker, Cat. xiv. p. 1289; Grote, List of North-American Moths, p. 42 (1882).

The single species belonging to this genus is one of the commonest forms of Noctuæ in Tropical America, and extends to the Antilles and also northwards to the United States.

1. Erebus odora.

Phalæna Attacus odora, Linn. Syst. Nat. ii. p. 811; Mus. Lud. Ulr. p. 374; Cram. Pap. Exot. ii. p. 111, t. 169. ff. A, B; Drury, Ill. Exot. Ins. i. p. 6, t. 3. f. 1.

Noctua odora, Fabr. Sp. Ins. ii. p. 210; Mant. Ins. ii. p. 135; Ent. Syst. iii. 2, p. 108; Oliv. Encycl. Méth. viii. p. 252.

Phalæna Noctua odora, Gmel. ed. Syst. Nat. i. 5, p. 2528.

Otosema odora, Hübn. Samml. exot. Schmett. ii. t. 206; Verz. bek. Schmett. p. 273.

Erebus odora, Guén. Sp. gén. des Lép. vii. p. 167 [1]; Walk. Cat. xiv. p. 1290 [2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 192 (sep. copy, p. 30) [3]; Behr, Trans. Am. Ent. Soc. iii. p. 23 [4]; Caulf. Canad. Ent. v. p. 155 [5]; Butl. P. Z. S. 1878, p. 488 [6]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 429; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 51; Beitr. zur Schmett.-Fauna von Jamaica, p. 56 [7]; Druce, P. Z. S. 1884, p. 323 [8].

Phalæna odorata, Clerck, Icon. t. 50. f. 1.

Phalæna Attacus agarista, Cram. Pap. Exot. ii. p. 112, t. 170. ff. A, B.

Otosema agarista, Hübn. Verz. bek. Schmett. p. 273.

Erebus marquesi, Philippi, Stett. ent. Zeit. 1871, p. 290, t. 3. f. 5 [9]; Dohrn, Stett. ent. Zeit. 1872, p. 363.

See also: Sloane, Voyage, ii. t. 236. ff. 13, 14.

Hab. North America [1], Montreal [5], United States, California [4].—Mexico, Ciudad in Durango, Mazatlan (*Forrer*), Jalisco (*Schumann*), Tampico in Tamaulipas, Puebla (*Richardson*), Amoquileca in Guerrero, Cuernavaca (*H. H. Smith*), Guanajuato (*Boucard, in mus. D.*), Cordova (*Rümeli*), Jalapa (*Schaus, Höge*); British Honduras, Belize (*Blancaneaux*); Guatemala, in the city (*Rodriguez*), Coatepeque, Dueñas, San Gerónimo, Purula, Panima (*Champion*); Nicaragua, Chontales (*Belt*); Costa Rica (*Van Patten*), Rio Sucio, Volcan de Irazu 6000 feet (*Rogers*); Panama, Bugaba, Volcan de Chiriqui (*Champion*), Chiriqui (*Arcé*), Colon (*Boucard, in mus. D.*).—South America [1 2] to Paraguay; Chili; Trinidad; Antilles, Cuba [2 3], Jamaica [1 2 6 7], San Domingo [2], Dominica [8], Antigua, St. Christopher, Nevis [2], Guadaloupe [1].

This common and very variable insect is universally distributed in the warmer parts of America, and I have a series of about one hundred specimens before me. In no one locality is it constant in size or colour; and I am quite unable to separate even the most extreme forms from the typical one. The females are much more subject to variation than the males. The Mexican specimens are the smallest, and agree best with those from Paraguay; the largest examples come from the tropical lowlands of South America. I cannot but think that we have only one variable species, and not five, as Mr. Butler states, P. Z. S. 1878, p. 488.

Subfam. *BENDINÆ.*

ITONIA.

Itonia, Hübner, Verz. bek. Schmett. p. 271 (1816); Guénée, Sp. gén. des Lép. vii. p. 211; Walker, Cat. xiv. p. 1337.

Four species of this genus are known, three from Central or South America and one from an unknown locality.

1. Itonia lignaris.

Itomia lignaris, Hübn. Zutr. Samml. exot. Schmett. ii. p. 22, ff. 317, 318.

Itonia lignaris, Hübn. Verz. bek. Schmett. p. 271; Walk. Cat. xiv. p. 1338; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 429[1]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 51.

Itonia opistographa, Guén. Sp. gén. des Lép. vii. p. 212, Noct. t. 23. f. 4[2]; Walk. Cat. xiv. p. 1338[3].

Hab. MEXICO, Dos Arroyos in Guerrero 1000 feet, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, El Jicaro in Vera Paz (*Champion*); HONDURAS (*Dyson*[2 3]); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA, Puerto Cabello[1].

This species varies considerably in colour, and the males are always the lightest. Our specimen from Guatemala closely resembles Guénée's figure, but is not quite so distinctly marked; it is, no doubt, the male of Hübner's *I. lignaris*. We have a good series of examples before us from the above-mentioned Central-American localities.

Mr. Smith's examples were captured between the months of February and May, and also in September.

2. Itonia multilinea.

Itonia multilinea, Walk. Cat. xv. p. 1823[1].

Hab. HONDURAS (*Dyson*[1]).

BENDIS.

Bendis, Hübner, Verz. bek. Schmett. p. 269 (1816); Guénée, Sp. gén. des Lép. vii. p. 213; Walker, Cat. xiv. p. 1338.

Walker in his Catalogue included twelve species in this genus, and others have since been described by Möschler. All these are from Tropical America or the Antilles except one, *B. hinna*, Geyer; the latter is from Georgia, and is referred by Grote in his 'Check List' to the genus *Trama*, Harv. Four are now enumerated from Central America, three of which are described as new.

1. Bendis formularis.

Bendis formularis, Geyer, Zutr. Samml. exot. Schmett. v. p. 26[1]; Hübn. Zutr. Samml. exot. Schmett. ff. 903, 904; Walk. Cat. xiv. p. 1339[2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 430[3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 52.

Bendis poaphiloides, Guén. Sp. gén. des Lép. vii. p. 215[4]; Walk. Cat. xiv. p. 1341[5], xv. p. 1823[6]; Druce, P. Z. S. 1884, p. 323[7].

Bendis impar, Guén. Sp. gén. des Lép. vii. p. 217[8].

Bendis fusifascia, Walk. Cat. xv. p. 1823[9].

Zethes umbrata, Walk. Cat. xxxiii. p. 1024 [10].
Ephyrodes postica, Walk. Cat. xxxiii. p. 1071 [11].

Hab. Mexico, Presidio (*Forrer*), Acapulco (*J. J. Walker*), Rincon 2800 feet and Dos Arroyos in Guerrero 1000 feet, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); Guatemala, La Tinta, Volcan de Atitlan 2500 to 3500 feet (*Champion*); Honduras (*Dyson* [6]); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 2000 to 4000 feet (*Champion*), Chiriqui (*Arcé*, *Ribbe*).—Guiana, Cayenne [4 5], Surinam [3]; Trinidad; Brazil [1 2]; Antilles, Jamaica [3 6 8 9 11], San Domingo [6 8 9], Dominica [7], Guadaloupe [8], Martinique [8].

This common and widely distributed species has been described under six different names, owing to the sexes being so unlike each other. The locality for *Zethes umbrata* was unknown to Walker [10].

2. **Bendis æmylia**, sp. n. (Tab. XXXII. fig. 8.)

Primaries pale dove-colour, clouded with brown from about the middle of the outer margin to the apex, and also partly along the inner margin, with four very fine zigzag lines crossing the wing from the costal to the inner margin and a marginal row of minute black dots, the latter extending from the apex nearly to the anal angle; secondaries dark brown, palest at the base, with two indistinct zigzag dark lines crossing about the middle from the costal to the inner margin, the outer margin from the apex to the anal angle broadly bordered with pale dove-colour, and with a marginal row of minute black dots; the underside of both wings dove-colour, crossed by two zigzag dark lines: head and front of the thorax very pale brown, the rest of the thorax dove-colour; the abdomen on the upperside dark brown, pale fawn-colour beneath; legs pale fawn-colour; antennæ pale greyish-brown. Expanse $1\frac{1}{2}$ inch.

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

This species is allied to *B. formularis*, but quite distinct. We have only seen the single female specimen in Dr. Staudinger's collection, from which our figure is taken.

3. **Bendis ænaria.** (Tab. XXXII. fig. 6.)

Primaries and secondaries dark brown, shaded with darker brown beyond the central pale band which crosses the middle of both wings, a marginal row of minute lunular-shaped pale markings extending from the apex to the anal angle of both wings, the primaries with two very indistinct dark brown lines crossing from the costal to the inner margin close to the base; the underside of both wings uniform pale greyish-brown, each with a faint line crossing about the middle: head, thorax, and the abdomen above and beneath dark brown; the legs, antennæ, and palpi brown. Expanse $1\frac{1}{2}$ inch.

Hab. Mexico, Jalapa (*Schaus*); Guatemala, Capetillo, San Gerónimo, San Joaquin in Vera Paz (*Champion*).

Mr. Champion captured three specimens of this species in Guatemala; the one from San Gerónimo is figured.

4. **Bendis æzica**, sp. n.

Primaries and secondaries dark brown, crossed by three indistinct brown lines, a wide pale-coloured band crossing both wings but not extending to the costal margin of the primaries, the marginal line white, the fringe dark brown; the underside dark brown, thickly irrorated with yellowish-white scales; the costal margin and several spots at the apex and along the outer margin pale yellow: head, thorax, abdomen, legs, and antennæ dark brown. Expanse $1\frac{1}{4}$ inch.

Hab. Panama, Volcan de Chiriqui 3000 feet (*Champion*).

This species is very like *B. œnaria* on the upperside, but quite different beneath. One specimen.

Subfam. *OPHIUSINÆ.*

OPHISMA.

Ophisma, Guénée, Sp. gén. des Lép. vii. p. 236 (1852); Walker, Cat. xiv. p. 1367.

This genus has its head-quarters in the tropical regions of the Old World; it is represented in Central America by five species.

1. Ophisma tropicalis.

Ophisma tropicalis, Guén. Sp. gén. des Lép. vii. p. 238[1]; Walk. Cat. xiv. p. 1368[2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 430[3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 52.

Hab. Panama, Chiriqui (*Arcé, in mus. D.*).—Colombia[1 2]; Guiana, Surinam[3]; Brazil[1 2]; Cuba[1 2].

The only specimens we have received from Central America are those captured by Arcé in Chiriqui. *O. tropicalis* is a well-marked species easily distinguished from *O. luteiplaga* and *O. detrahens*, Walk., by the two distinct bands on the primaries.

2. Ophisma detrahens.

Ophisma detrahens, Walk. Cat. xiv. p. 1368[1].

Hab. Panama, Panama Bay (*J. J. Walker*).—West coast of America[1]; Antilles, San Domingo[1].

A specimen captured by Mr. J. J. Walker in the Bay of Panama agrees perfectly with the example in the National Collection received from Captain Kellett from the "west coast of America."

3. Ophisma luteiplaga.

Ophisma luteiplaga, Walk. Cat. xiv. p. 1369[1].

Hab. Mexico, Jalapa (*Höge*); Panama, Chiriqui (*Arcé, in mus. D.*).—Colombia, Bogota[1]; Brazil, Rio Janeiro[1]; West coast of America[1].

This species is exceedingly close to and perhaps not really distinct from *O. detrahens*.

4. Ophisma delunaris.

Ophisma delunaris, Guén. Sp. gén. des Lép. vii. p. 238[1]; Walk. Cat. xiv. p. 1370.

Ophisma turturoides, Walk. Cat. xiv. p. 1372[2].

Remigia indistincta, Walk. Cat. xxxiii. p. 1009[3].

Hab. Mexico (*Boucard, in mus. D.*), Omealca near Orizaba (*M. Trujillo*); Guatemala, El Reposo 800 feet, Pantaleon 1700 feet (*Champion*); Costa Rica (*Gabb, in*

mus. D.); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Arcé*). —COLOMBIA, Bogota [3]; VENEZUELA [2]; ECUADOR; SOUTH-EAST BRAZIL.

This species varies slightly, the spots on the underside in some specimens being much more distinct than in others. Walker's types of *Remigia indistincta* are in my own collection, and they are not separable from *O. delunaris*, Guén. It is also quite possible that the latter is only a variety of *O. ablunaris*, a typical example of which I have not seen. The locality for *O. delunaris* was unknown to Guénée [1].

5. **Ophisma æolida,** sp. n. (Tab. XXXII. fig. 9.)

Primaries pale greyish-fawn colour, with a darker marking at the base enclosed by a >-shaped pale line, a dark brown broad curved band edged with a narrow pale line crossing the wing from the apex to the inner margin near the anal angle, and a small curved pale line crossing the dark band near the apex from the costal to the outer margin; secondaries dark brown, palest at the base; the fringe of both wings greyish; the underside pale greyish-fawn colour, clouded with darker brown near the outer margin of both wings: head, thorax, and abdomen pale greyish-brown; the antennæ pale brown; the legs greyish. Expanse 2 inches.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Dr. Staudinger's specimen is the only one we have seen of this very distinct species.

ACHÆA.

Achæa, Hübner, Verz. bek. Schmett. p. 269 (1816); Guénée, Sp. gén. des Lép. vii. p. 244; Walk. Cat. xiv. p. 1389.

The species hitherto referred to this genus are all from the warmer parts of the Old World, chiefly from Asia, Africa, and the Eastern Archipelago. We have to record one species from Central America; this is allied to *A. sypnaoides*, Butl., from Madagascar.

1. **Achæa schausi,** sp. n. (Tab. XXXII. fig. 5.)

Primaries pale grey shaded with fawn-colour and darker brown, a waved brown line crossing the wing near the base from the costal to the inner margin, beyond which is a very pale grey marking, the marking only extending to the middle of the wing, and below it and in front of the reniform spot are a number of indistinct waved lines, a dark brown line near the apex and one on the inner margin near the anal angle, the marginal line black, the fringe pale grey; secondaries pale citron-yellow, broadly bordered with brownish-black from the apex to near the anal angle but not reaching it, the anal angle shaded with grey and with two rows of V-shaped blackish markings extending upwards towards the base of the wing, the marginal line black, the fringe pale grey; the underside of both wings pale brownish-grey, each shaded with yellow at the base and along the inner margin and with the outer margin clouded with dusky brown: head, tegulæ, thorax, and abdomen pale grey, the collar pale brown, the legs greyish-brown, the antennæ and palpi brown. Expanse 3 inches.

Hab. MEXICO, Paso de San Juan (*Schaus*).

I have named this insect after its captor, Mr. Schaus, to whom I am indebted for the pleasure of adding this fine species to our fauna. One specimen.

ATHYRMA.

Athyrma, Hübner, Verz. bek. Schmett. p. 267 (1816); Guénée, Sp. gén. des Lép. vii. p. 261; Walker, Cat. xiv. p. 1416.

This genus is represented in Central America by two species, one of which is distributed from Mexico to Panama.

1. Athyrma adjutrix.

Phalæna Noctua adjutrix, Cram. Pap. Exot. iii. p. 144, t. 272. ff. E, F[1].

Athyrma adjutrix, Hübn. Verz. bek. Schmett. p. 267; Guén. Sp. gén. des Lép. vii. p. 262[2]; Walk. Cat. xiv. p. 1416[3].

Hab. Mexico, Paso de San Juan (*Schaus*), Coatepec (*Brooks*); Guatemala, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui below 4000 feet (*Champion*), Chiriqui (*Ribbe*).—Guiana, Surinam [1 2 3].

Walker states [3] that *A. dormitrix*, Guén., may be a variety of this species.

2. Athyrma tuberosa.

Athyrma tuberosa, Feld. & Rogenh. Reise der Nov., Lep. t. 117. f. 21, Erkl. der Taf. 117. no. 21[1].

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Amazons [1].

Dr. Staudinger's specimen from Chiriqui is slightly darker than Felder's figure.

OPHIUSA.

Ophiusa, Guénée, Sp. gén. des Lép. vii. p. 263 (1852); Walker, Cat. xiv. p. 1418.

Walker included forty-seven species in this genus, which is represented in nearly all parts of the globe; two only are known to me from within the limits of our fauna.

1. Ophiusa delinquens.

Ophiusa delinquens, Walk. Cat. xiv. p. 1423[1].

Hab. Mexico, Acapulco (*J. J. Walker*), Cordova (*Rümeli*); Panama, Bugaba (*Champion*).—Venezuela [1].

This species varies very considerably in colour; some specimens being quite pale and others very dark.

2. Ophiusa antica.

Ophisma (?) *antica,* Walk. Cat. xxxiii. p. 954[1].

Hab. Mexico, Acapulco (*J. J. Walker*).—Venezuela [1].

Our specimen from Acapulco does not differ from Walker's type in the National Collection. I think it most likely that *O. antica* will prove to be not distinct from *O. delinquens.*

Subfam. *EUCLIDIINÆ.*

DRASTERIA.

Drasteria, Hübner, Verz. bek. Schmett. p. 280 (1816); Guénée, Sp. gén. des Lép. vii. p. 288; Walker, Cat. xiv. p. 1455.

The species of this genus are mostly North American; one has been recorded from our region.

1. **Drasteria magnifica.**

Drasteria magnifica, H. Edwards, Papilio, iv. p. 18[1].

Hab. Mexico, State of Vera Cruz (*Schaus*[1]).

Mr. Henry Edwards states[1] that this is the largest known species of the genus.

Subfam. *POAPHILINÆ.*

POAPHILA.

Poaphila, Guénée, Sp. gén. des Lép. vii. p. 299 (1852); Walker, Cat. xiv. p. 1467.

This genus includes a large number of species distributed over North, Central, and South America and the Antilles; the majority of these, however, are from North America. Of the five species now enumerated from within the limits of our region, we have only received examples of two.

1. **Poaphila bistrigata.**

Ptichodis bistrigata, Hübn. Zutr. Samml. exot. Schmett. i. p. 21, ff. 111, 112[1].
Ortholitha bistrigata, Hübn. Verz. bek. Schmett. p. 338.
Poaphila bistrigata, Guén. Sp. gén. des Lép. vii. p. 303[2]; Walk. Cat. xiv. p. 1471[3].
Phurys bistrigata, Grote, List of North-American Moths, p. 41 (1882).

Hab. North America[1 2 3].—Honduras (*Dyson*[3]).—Jamaica[3].

2. **Poaphila amplissima.**

Poaphila amplissima, Walk. Cat. xiv. p. 1473[1].

Hab. North America, East Florida[1].—Panama, Chiriqui (*Ribbe*).

This species is not included in Grote's 'Check-List of North-American Moths.' It may be an extreme form of *P. bistrigata,* Hübn.

3. **Poaphila stricta.**

Poaphila stricta, Walk. Cat. xiv. p. 1476[1].

Hab. Honduras (*Dyson*[1]).—Amazons, Santarem[1].

I have searched in vain for the types of this species in the National Collection.

4. Poaphila ordinans.

Poaphila ordinans, Walk. Cat. xv. p. 1837 [1].

Hab. GUATEMALA, San Gerónimo (*Champion*).—ANTILLES, San Domingo [1].

Our Guatemalan specimens agree with Walker's type in the National Collection.

5. Poaphila? paucula.

Poaphila (?) *paucula*, Walk. Cat. xv. p. 1838 [1].

Hab. HONDURAS (*Dyson* [1]).

This species was described by Walker from a single worn example.

RISTRA.

Ristra, Walker, Cat. xv. p. 1842 (1858).

Walker founded this genus for the reception of a species from Honduras.

1. Ristra tortuosa.

Ristra tortuosa, Walk. Cat. xv. p. 1842 [1].

Hab. HONDURAS (*Dyson* [1]).

RHOSOLOGIA.

Rhosologia, Walker, Cat. xxxiii. p. 1003 (1865).

A single species from Mexico was included in *Rhosologia* by its author; this is now known to extend southwards to the State of Panama.

1. Rhosologia porrecta. (Tab. XXXII. fig. 11, ♂.)

Rhosologia porrecta, Walk. Cat. xxxiii. p. 1003 [1].

Hab. MEXICO [1], Coatepec (*Brooks*); PANAMA, Bugaba 1000 feet (*Champion*).

Our specimens do not differ from Walker's type in the National Collection. A Mexican example is figured.

HERMINODES.

Herminodes, Guénée, Sp. gén. des Lép. vi. p. 431 (1852); Walker, Cat. xiii. p. 1033.

This genus is very closely allied to *Rhosologia*, and both eventually will most likely have to be placed among the Deltoides. Three species from Tropical America were included in it by Guénée.

1. Herminodes nigripalpis.

Herminodes nigripalpis, Guén. Sp. gén. des Lép. vi. p. 431, Noct. t. 18. f. 4 (♀) [1]; Walk. Cat. xiii. p. 1033 [2].

Hab. MEXICO, Omealca near Orizaba (*M. Trujillo*); GUATEMALA, Las Mercedes 3000 feet (*Champion*).—GUIANA, Cayenne [1 2]; BRAZIL [2].

One specimen of what I believe to be the male of *H. nigripalpis* was captured on the Pacific slope of Guatemala by Mr. Champion; a second example just received from Mexico is considerably smaller, but otherwise agrees with it.

BANIANA.

Baniana, Walker, Cat. xv. p. 1843 (1858).

Three species were referred to this genus by its author—one from San Domingo, one from Mexico, and one from Hindostan. *Euclidia* (?) *pohli*, Feld. & Rogenh., from the Amazons, also belongs to it; this is now known to extend into the southern part of our region.

1. **Baniana mexicana.**

Baniana mexicana, Walk. Cat. xxxiii. p. 1000 [1].

Hab. MEXICO, Oaxaca (*Sallé, in mus. Brit.* [1]).

2. **Baniana suggesta.**

Poaphila suggesta, Walk. Cat. xiv. p. 1476 [1].

Hab. HONDURAS (*Dyson* [1]).

This insect may prove to be not distinct from *B. mexicana*.

3. **Baniana pohli.**

Euclidia (?) *pohli*, Feld. & Rogenh. Reise der Novara, Lep. t. 117. f. 3, Erkl. der Taf. 117. no. 3 (♂) [1].

Hab. PANAMA, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—AMAZONS [1].

The two male specimens received from Chiriqui are considerably darker in colour than Felder and Rogenhofer's figure, but they agree with it in the markings of the primaries.

PHURYS.

Phurys, Guénée, Sp. gén. des Lép. vii. p. 303 (1852); Walker, Cat. xiv. p. 1478.
Chalciope, Hübner, Verz. bek. Schmett. p. 268 (pars).

Walker in his Catalogue included seventeen species in this genus, most of these being from Central and South America and the West-Indian Islands. Nine are here enumerated.

1. **Phurys helvina.**

Phurys helvina, Guén. Sp. gén. des Lép. vii. p. 307 [1]; Walk. Cat. xiv. p. 1480 [2].

Hab. MEXICO [1 2], State of Durango (*Forrer*), Tierra Colorada in Guerrero 2000 feet, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Cuesta de Misantla (*M. Trujillo*), Vera Cruz (*F. D. G.*), Cordova (*Rümeli*); BRITISH HONDURAS, R. Sarstoon (*Blancaneaux*); GUATEMALA, Cerro Zunil 4000 feet, San Isidro 1600 feet, Volcan de Atitlan

2500 to 3500 feet, Zapote, San Gerónimo, Panzos, San Juan in Vera Paz (*Champion*); Honduras, Ruatan Island (*Gaumer*); Costa Rica, Volcan de Irazu 6000 to 7000 feet, Cache (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Brazil [1] [2].

This extremely variable species is very abundant everywhere in our region, and in no one district is any form constant. Mons. C. Oberthür has kindly sent us Guénée's types for examination; they are pale-coloured specimens. In the very large series before us the females not nearly so numerous as the males, and they are comparatively darker in colour.

Mr. Smith's Mexican examples were captured between the months of January and May and also in October.

2. Phurys jugis.

Phurys jugis, Walk. Cat. xiv. p. 1481 [1].

Hab. Mexico [1], State of Durango (*Forrer*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

I think this is most likely a form of *P. garnoti*, Guén.

3. Phurys immunis.

Phurys immunis, Guén. Sp. gén. des Lép. vii. p. 305 [1]; Walk. Cat. xiv. p. 1482 [2]; Druce, P. Z. S. 1884, p. 324 [3].

Phuris immunis, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 436 [4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 58.

Perasia immunis, Möschl. Beitr. zur Schmett.-Fauna von Jamaica, p. 57 [5].

Hab. Mexico, Presidio (*Forrer*), Dos Arroyos 1000 feet, Acapulco, Tierra Colorada 2000 feet, all in Guerrero (*H. H. Smith*); Guatemala, San Gerónimo, Zapote (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Chiriqui (*Ribbe*), Taboga Island (*J. J. Walker*).—Guiana, Surinam [5], Paramaribo [4]; Trinidad; Lower Amazons; Antilles, Jamaica [5], San Domingo [2], St. Thomas [1] [2], Dominica [3], Guadaloupe [1] [2], Martinique [1] [2].

This is a common insect in our region. The specimens from Tierra Colorada are very richly coloured. *P. immunis* appears to me to be very closely allied to the North-American *P. vinculum*, Guén.

Mr. Smith's Guerrero examples were captured in the months of September and October.

4. Phurys lineolaris.

Noctua lineolaris, Hübn. Samml. eur. Schmett., Noct. f. 454.

Phurys lineolaris, Guén. Sp. gén. des Lép. vii. p. 307 [1]; Walk. Cat. xiv. p. 1483 [2]; Butler, Trans. Ent. Soc. Lond. 1879, p. 51 [3].

Phuris lineolaris, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 436 [4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 59.

Hab. HONDURAS [2].—GUIANA, Surinam [4]; AMAZONS, Rio Tapajos [3]; ANTILLES, Martinique [1 2].

We have not received any specimens of this insect from our region.

5. Phurys garnoti.

Phurys garnoti, Guén. Sp. gén. des Lép. vii. p. 306, Noct. t. 23. f. 3 [1]; Walk. Cat. xiv. p. 1483 [2]; Butl. P. Z. S. 1878, p. 488 [3]; Druce, P. Z. S. 1884, p. 324 [4].

Perasia garnoti, Möschl. Beitr. zur Schmett.-Fauna von Jamaica, p. 57 [5].

Hab. MEXICO, Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*), Paso de San Juan, Jalapa (*Schaus*); GUATEMALA, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ANTILLES, Jamaica [2 3 5], San Domingo [2], Dominica [4], Martinique [1 2].

Specimens from Central America are darker in colour than any of those from the Antilles, but otherwise they are similar.

6. Phurys dissocians.

Poaphila dissocians, Walk. Cat. xiv. p. 1477 [1].

Hab. MEXICO, Presidio (*Forrer*), Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*).

Walker's type of this species in the British Museum is without any locality [1]. Mr. Smith met with the insect in the month of September.

7. Phurys teligera.

Phurys teligera, Walk. Journ. Linn. Soc., Zool. ix. pp. 181, 191 [1].

Hab. GUATEMALA, Coban in Vera Paz (*Conradt*); PANAMA, Chiriqui (*Ribbe*).—COLOMBIA, Bogota [1]; ECUADOR; SOUTH-EAST BRAZIL.

We have only received two specimens, one of each sex, of this species from Central America; the one from Chiriqui agrees perfectly with Walker's type, which is now in my own collection.

8. Phurys basilans.

Phurys basilans, Guén. Sp. gén. des Lép. vii. p. 306 [1]; Walk. Cat. xiv. p. 1484 [2].

Hab. HONDURAS (*Dyson* [2]).—VENEZUELA [2]; AMAZONS, Santarem [2]; BRAZIL [1 2].

MOCIS.

Mocis, Hübner, Verz. bek. Schmett. p. 267 (1816); Guénée, Sp. gén. des Lép. vii. p. 309; Walker, Cat. xiv. p. 1488.

Walker in his Catalogue enumerated eight species of this genus, four of them at least being varieties of one; these are all from Tropical South America or the Antilles, and one a common and widely distributed insect in Central America.

1. Mocis levina.

Phalæna Noctua levina, Cram. Pap. Exot. iv. p. 108, t. 346. f. D [1]; Stoll, Suppl. Cram. Pap. Exot. v. p. 160, t. 36. f. 2 [2].

Mocis levina, Hübn. Verz. bek. Schmett. p. 267; Guén. Sp. gén. des Lép. vii. p. 311 [3]; Walk. Cat. xiv. p. 1490 [4]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 436 [5]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 58.

Mocis aurinia, Geyer, Zutr. Samml. exot. Schmett. iv. p. 30, ff. 729, 730; Guén. Sp. gén. des Lép. vii. p. 310 [6]; Walk. Cat. xiv. p. 1488; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 189 (sep. copy, p. 27) [7].

Mocis alvina, Guén. Sp. gén. des Lép. vii. p. 310 [8]; Walk. Cat. xiv. p. 1489 [9].

Mocis pallidior, Guén. Sp. gén. des Lép. vii. p. 311 [10]; Walk. Cat. xiv. p. 1490 [11].

Ophiusa variolosa, Walk. Cat. xiv. p. 1421 [12].

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*); Guatemala, Las Mercedes 3000 feet, Cerro Zunil 4000 feet, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet, Cubilguitz (*Champion*); Costa Rica (*Van Patten*), Cache, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Colombia, Bogota [12]; Guiana, Surinam [1 2 3 4 5]; Brazil [8 9 10 11], Santa Catarina; Antilles, Cuba [6 7], San Domingo [12].

The large number of specimens received from Central America vary greatly in colour and in size; some of them are very strongly marked, and others almost without markings; in fact, hardly two specimens are alike. *M. levina* has a very extended range; it has been described under at least four names; and *Ophiusa variolosa*, Walk., is, no doubt, a variety of the same species. In the series before me I am able to find specimens agreeing with the types and with those that are figured.

CÆNURGIA.

Cænurgia, Walker, Cat. xiv. p. 1491 (1858).

Walker founded this genus upon two species reported to come from North America; they are not included, however, in Grote's Check-List. The genus is allied to *Phurys*, but the primaries are much longer and narrower.

1. Cænurgia purgata.

Cænurgia purgata, Walk. Cat. xiv. p. 1492 [1].

Anaitis (?) *togataria*, Walk. Cat. xxv. p. 1445 [2].

Hab. North America, East Florida [1].—Mexico, Milpas in Durango 5900 feet (*Forrer*), Cuernavaca (*H. H. Smith*), Orizaba (*Sallé, in mus. Brit.* [2]; *H. H. Smith, F. D. G.*), Coatepec (*Brooks*), Cordova (*Rümeli*), Jalapa (*Höge*); Guatemala, San Gerónimo (*Champion*); Costa Rica (*Van Patten; Boucard, in mus. D.*); Panama, Chiriqui (*Ribbe*).

This species varies considerably: the examples obtained by Mr. Godman at Orizaba are the darkest I have seen. The female was described by Walker under the name of *Anaitis togataria*, and placed by him in the Eubolidæ.

Subfam. *REMIGIINÆ.*

REMIGIA.

Remigia, Guénée, Sp. gén. des Lép. vii. p. 312 (1852); Walker, Cat. xiv. p. 1493.

The species of this genus are all very dull-coloured insects, and vary to a great extent. *Remigia* is well represented in most of the warmer parts of the world. Five species are known to me from Central America, one of which is very abundant; the latter, *R. diffluens*, Guén., has been described five times by Walker, and under two different genera.

1. Remigia latipes.

Remigia latipes, Guén. Sp. gén. des Lép. vii. p. 314[1]; Walk. Cat. xiv. p. 1494[2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 436[3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 58; Beitr. zur Schmett.-Fauna von Jamaica, p. 57[4]; Grote, List of North-American Moths, p. 41 (1882)[5]; Butler, Trans. Ent. Soc. Lond. 1879, p. 51[6].

Remigia indentata, Harv. Bull. Buff. Soc. ii. p. 282[7], iii. p. 12.

Hab. North America[1 5], Labrador[1], United States, Texas[7], Florida (*Morrison*).—Mexico[1], Lake Chapala in Jalisco (*Richardson*); Honduras, Ruatan I. (*Gaumer*); Costa Rica (*Van Patten*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Colombia[1]; Venezuela[2]; Guiana, Paramaribo[3]; Amazons[6], Pará[2], Santarem[2]; Brazil[1], Rio Janeiro[2]; Antilles, Cuba[1], San Domingo[2], Jamaica[4], Martinique[1].

2. Remigia diffluens.

Remigia diffluens, Guén. Sp. gén. des Lép. vii. p. 318[1]; Walk. Cat. xiv. p. 1496[2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 437[3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 59[4].

Phurys perlata, Walk. l. c. p. 1480[5].

Phurys optabilis, Walk. l. c. p. 1485[6].

Remigia mensuralis, Walk. l. c. p. 1499[7].

Remigia exscindens, Walk. l. c. p. 1500[8].

Remigia subtilis, Walk. l. c. p. 1501[9].

Hab. North America, East Florida[5].—Mexico[1 2], Rio Papagaio 1200 feet, Acapulco, Rincon 2800 feet, Tierra Colorada 2000 feet, Dos Arroyos 1000 feet, Venta de Zopilote 2800 feet, all in Guerrero, Cuernavaca, Atoyac in Vera Cruz (*H. H. Smith*), Vera Cruz (*F. D. G.*), Cordova (*Rümeli*), San Lorenzo (*M. Trujillo*), Lake Chapala in Jalisco (*Richardson*), Mexico city (*Höge*); British Honduras, Belize (*Blancaneaux*); Guatemala, in the city (*Rodriguez*), El Tumbador 2500 feet, Las Mercedes 3000 feet, San Isidro 1600 feet, Cerro Zunil 4000 feet, Volcan de Atitlan 3000 feet, Zapote, Balheu, Panima, Cubilguitz, Cahabon (*Champion*); Honduras (*Dyson*[6 7 8]); Costa Rica, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*); Panama, Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Venezuela[8]; Trinidad; Guiana, Paramaribo[3 4]; Ecuador; Amazons, Pará[8], Santarem[9]; Brazil[1 8]; Antilles, Jamaica[7], San Domingo[7 8].

This very common and extremely variable species is found almost everywhere in Tropical America. I am quite unable to admit as distinct the numerous so-called species described by Walker, hardly two specimens of the large series before me being exactly alike. We are indebted to Mons. C. Oberthür for the loan of the type of *R. diffluens*, and are thus enabled to certainly identify Guénée's species. Mr. Champion bred a large number of specimens at Bugaba, Chiriqui. He states that "the larva feeds on the rice-plant, to which it is in some seasons very destructive, and forms a sort of cocoon by drawing the opposite edges of the leaf together; it remains only a short time in the pupa state." The name *Phurys perlata*, Walk., is omitted from Grote's 'Check-list of North-American Moths. Mr. Smith met with examples of this insect in Mexico, between the months of January and October.

3. **Remigia alipes.**

Remigia alipes, Feld. & Rogenh. Reise der Novara, Lep. t. 117. f. 12, Erkl. der Taf. 117. no. 12[1].

Hab. GUATEMALA [1].

This species is only known to us by Felder and Rogenhofer's figure; it may be a very extreme form of *R. diffluens*.

4. **Remigia impressa.**

Remigia impressa, Butl. & Druce, Cist. Ent. i. p. 117[1]; Butl. Lep. Exot. p. 177, t. 61. f. 19[2].

Hab. COSTA RICA, Cartago (*Van Patten* [1 2]).

We have not received any specimens agreeing with the figure of this species.

5. **Remigia disseverans.**

Remigia disseverans, Walk. Cat. xiv. p. 1495[1]; Butl. P. Z. S. 1878, p. 489[2].
Remigia persubtilis, Walk. Cat. xiv. p. 1497[3].

Hab. NORTH AMERICA, East Florida [1].—HONDURAS (*Dyson* [3]).—ANTILLES, San Domingo [1 3], Jamaica [1 2 3].

The specimen from Honduras in the National Collection is the only one we have seen from our region.

NYMBIS.

Nymbis, Guénée, Sp. gén. des Lép. vii. p. 320 (1852); Walker, Cat. xiv. p. 1513.

The two species included in this genus by Guénée are both found in our region.

1. **Nymbis iniqua.**

Nymbis iniqua, Guén. Sp. gén. des Lép. vii. p. 321[1]; Walk. Cat. xiv. p. 1513[2].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL (?) [1 2].

It is most probable that *N. iniqua* will prove to be the female of *N. textilis*, Guén.; all the specimens of the former known to us are of this sex.

2. Nymbis textilis.

Nymbis textilis, Guén. Sp. gén. des Lép. vii. p. 321, Noct. t. 23. f. 7 (♂)[1]; Walk. Cat. xiv. p. 1514[2].

Phurys coactilis, Feld. & Rogenh. Reise der Novara, Lep. t. 117. f. 15, Erkl. der Taf. 117. no. 15 (♂)[3].

Hab. MEXICO, Atoyac in Vera Cruz (*Schumann*); GUATEMALA, Zapote (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*).—GUIANA[3]; BRAZIL[1 2].

Our Mexican specimen very closely resembles Felder and Rogenhofer's figure of *Phurys coactilis*. This species varies considerably in colour, and in the size of the black spot near the base of the primaries, it being almost obsolete in some specimens.

ISOGONA.

Isogona, Guénée, Sp. gén. des Lép. vii. p. 322 (1852); Walker, Cat. xiv. p. 1515.

Guénée and Walker include two species in this genus, one from North America and the other from Brazil. We are now enabled to trace the southern species northwards to Mexico, and to add a new one from our region.

1. Isogona continua.

Isogona continua, Guén. Sp. gén. des Lép. vii. p. 322[1]; Walk. Cat. xiv. p. 1516[2].

Massava scissa, Walk. Cat. xxxiii. p. 1110[3].

Hab. MEXICO, Venta de Zopilote in Guerrero 2800 feet (*H. H. Smith*); BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Bugaba 800 to 1000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA[3]; BRAZIL[1 2].

This is a common species throughout our region. Mr. Butler states (Trans. Ent. Soc. Lond. 1879, p. 55) that *Massava scissa*, Walk.=*Isogona continua*, Guén.

2. Isogona æolia, sp. n. (Tab. XXXIII. fig. 1.)

Primaries pale brownish-fawn-colour, crossed near the outer margin from the costal to the inner margin by a wide dark brown band, the latter edged with a pale line on the outer side, and with three indistinct waved lines crossing the wing between the base and the dark brown band; secondaries dull brownish-fawn-colour, darkest round the outer margin; the fringe of both the primaries and the secondaries pale greyish-brown; the underside of both wings pale dove-colour, crossed beyond the middle by narrow indistinct darker brown lines: head, thorax, and abdomen greyish-brown, the anal tuft yellowish-brown, the antennæ and palpi pale brown, the legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Of this species we have only received one specimen; it agrees with others from Chiriqui in Dr. Staudinger's collection.

The Guatemalan example is figured.

EPIDROMIA.

Epidromia, Guénée, Sp. gén. des Lép. vii. p. 325 (1852); Walker, Cat. xiv. p. 1518.

Guénée founded this genus upon two species, both from Brazil; and several others, from the Amazons, have since been described by Butler. Some of the Tropical-American species referred by Walker to *Thermesia* also belong to it. Three are here recorded from Central America.

1. Epidromia distincta.

Epidromia distincta, Butl. Trans. Ent. Soc. Lond. 1879, p. 53 [1].

Hab. Panama, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—Amazons [1].

A specimen from Chiriqui in Dr. Staudinger's collection is almost identical with Butler's type in the National Museum.

2. Epidromia tinctifera.

Thermesia tinctifera, Walk. Cat. xv. p. 1570 [1].

Hab. Mexico, Valladolid in Yucatan (*Gaumer*); Guatemala, in the city (*Rodriguez*), Zapote (*Champion*); Honduras (*Dyson* [1]); Panama, Chiriqui (*Trötsch, Ribbe, in mus. Staudinger*).

This species varies considerably in colour.

3. Epidromia suffusa.

Thermesia suffusa, Walk. Cat. xv. p. 1561 [1].

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Antilles, San Domingo [1].

It is quite possible that this insect is only a pale form of the preceding species.

CEROMACRA.

Ceromacra, Guénée, Sp. gén. des Lép. vii. p. 327 (1852); Walker, Cat. xiv. p. 1519.

This genus includes one species only, the *Phalæna Bombyx tymber* of Cramer.

1. Ceromacra tymber.

Phalæna Bombyx tymber, Cram. Pap. Exot. ii. p. 109, t. 167. f. D [1].

Ceromacra tymber, Guén. Sp. gén. des Lép. vii. p. 327 [2]; Walk. Cat. xiv. p. 1519 [3]; Butl. Trans. Ent. Soc. Lond. 1879, p. 54 [4]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 438 [5]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 60.

Hab. Guatemala, Pantaleon 1700 feet, Zapote (*Champion*); Panama, Volcan de

Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA, Surinam [1 5], Cayenne [2 3]; AMAZONS [4], Manaos.

Fairly common in our region. Some specimens are of a much redder brown than others.

Subfam. *FOCILLINÆ.*

FOCILLA.

Focilla, Guénée, Sp. gén. des Lép. vii. p. 333 (1852); Walker, Cat. xv. p. 1528, and xxxiii. p. 1029.

Walker included eleven species in this genus—nine from the warmer parts of the New World, one from Ceylon, and one from an unknown locality. We have to enumerate nine from Central America, six of which are described as new.

1. **Focilla guerini.**

Focilla guerini, Guén. Sp. gén. des Lép. vii. p. 334, Noct. t. 23. f. 12 (♀) [1]; Walk. Cat. xv. p. 1530 [2].

Hab. MEXICO, near the city (*Höge*), Campeache [1 2]; GUATEMALA, in the city (*Rodriguez*), San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS, Ega [2].

This species is widely distributed in our region, but nowhere common.

2. **Focilla recurva.** (Tab. XXXIII. fig. 2.)

Focilla recurva, Walk. Cat. xv. p. 1530 [1].

Focilla consurgens, Walk. Cat. xv. p. 1532 [2].

Hab. GUATEMALA, Cahabon (*Champion*); PANAMA, Bugaba 1000 feet (*Champion*).—WEST COAST OF AMERICA (*Capt. Kellett* [1]); VENEZUELA [2].

Our specimen from Guatemala agrees with Walker's type of *F. recurva*; I am unable to detect any reason for separating the Venezuelan insect from it. We figure the example from Cahabon.

3. **Focilla (?) laba,** sp. n. (Tab. XXXIII. fig. 3.)

Primaries and secondaries pale brown mottled and shaded with darker brown; the primaries with the costal margin streaked with greyish-white, a large indistinct oval spot at the end of the cell edged with black, and a dark zigzag brown line crossing near the base from the costal to the inner margin, the base of the wing with a greyish shade which does not extend beyond the zigzag brown line; the secondaries with a dark brown mark near the anal angle, and one beyond nearest the apex; the marginal line of both wings black, the fringe brown: head, thorax, and abdomen greyish-brown, the front of the thorax streaked with dark brown; antennæ, palpi, and legs brown. Expanse 2 inches.

Hab. GUATEMALA, Cerro Zunil 4000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

This insect very closely resembles an undescribed species of *Lacera* from New Caledonia in my own collection. I have included it in *Focilla* with considerable doubt; in the form of the palpi the species seems to be intermediate between the two genera. Mr. Champion only captured two specimens, one of which is in very poor condition. The Atitlan example is figured.

4. **Focilla labecia,** sp. n. (Tab. XXXIII. fig. 4, ♂.)

Male. Primaries pale greyish-brown, shaded with dark brown at the anal angle and along the outer margin nearly to the apex, and with five dark brown waved lines crossing the wing from the costal to the inner margin, a minute black dot in the cell, an indistinct oval spot at the end of the cell, and four small pale brown spots extending from the anal angle along the outer margin; secondaries with somewhat similar markings, the basal half the palest, a yellowish-brown line bordered on the inner edge with dark brown crossing the wing from the apex to the anal angle, and a submarginal row of small pale brown dots extending from the apex to the anal angle; the underside uniform pale brown, the primaries crossed beyond the middle from the costal to the inner margin by two pale yellowish-brown lines, and with the spot in the cell and the spot at the end of the cell pale ochraceous-brown, the secondaries with a very indistinct brown line crossing from the costal to the inner margin, both wings with a row of marginal white dots: head, thorax, and abdomen greyish-brown; the palpi, antennæ, underside of the thorax, abdomen, and legs dark brown, the anal tuft pale yellowish-brown. The female differs from the male in being much greyer in colour, and in having all the lines on the primaries very indistinct, those on the secondaries scarcely more prominent than the brown line crossing from the apex to the anal angle; the underside also greyer in colour, but otherwise agreeing with that of the male. Expanse, ♂ $2\frac{1}{5}$, ♀ $2\frac{1}{2}$ inches.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

One specimen only of each sex.

Mr. Champion informs me that this is one of very many species of Noctuæ of which examples were attracted to light, during the dry season, in the months of December and January, at San Agustin, on the slope of the Volcan de Atitlan.

5. **Focilla maxima,** sp. n. (Tab. XXXIII. fig. 5.)

Female. Primaries and secondaries rich reddish-brown; the primaries crossed from the costal to the inner margin by two waved greyish lines—the first near the base, the second beyond the cell,—and with a distinct waved reddish-brown band (almost broken into spots) extending from the costal margin near the apex (where it is widest) across the wing to the anal angle, a row of very minute black dots, which are whitish on the outer edge, extending from the apex along the outer margin to the anal angle, and a pale greyish oval spot at the end of the cell; the secondaries with two zigzag greyish lines crossing the wing to about the middle from the inner margin above the anal angle, and four minute greyish spots on the outer margin; the underside pale brown thickly irrorated with bluish-grey scales, the primaries crossed beyond the middle from the costal to the inner margin with a greyish-brown waved line, the secondaries crossed beyond the middle by two bluish-grey lines, the outer line broken into spots, both wings with a row of minute white dots and a bright yellowish-brown line on the outer margin; the fringe bluish-grey: head, thorax, and abdomen dark reddish-brown, the palpi, the antennæ beneath, and the legs brown, the front of the head, the tips of the palpi, and the upperside of the antennæ whitish. Expanse $2\frac{3}{4}$ inches.

Hab. PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

We are indebted to Dr. Staudinger for the pleasure of adding this fine species to our fauna; it is by far the largest member of the genus, and very distinct from any known to us.

6. **Focilla agava,** sp. n. (Tab. XXXIII. fig. 6.)

Male and *female*. Primaries and secondaries of a uniform rich dark brown colour, each with several indistinct darker brown lines crossing from the costal to the inner margin; the underside of both wings considerably paler in colour, and the brown lines much more distinct, the inner margin of the primaries also paler, a row of minute white spots crossing each wing beyond the middle from the costal to the inner margin: head, palpi, antennæ, thorax, abdomen, and legs dark brown. Expanse, ♂ ♀, $1\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

This insect is allied to *F. angularis*, Möschl.; the only specimens we have seen of it are those contained in Dr. Staudinger's collection.

7. **Focilla lacæna,** sp. n.

Male and *female*. Primaries and secondaries brown, with a rich purple gloss in some lights, each with an indistinct zigzag greyish-brown line crossing beyond the middle, and a submarginal waved brown line extending from the apex to the inner margin close to the anal angle, both wings with a marginal row of small black spots, the fringe dark brown; the underside as above, but considerably paler in colour and with all the lines and the marginal row of spots much more distinct: head, palpi, antennæ, thorax, abdomen, and legs brown. Expanse, ♂ $1\frac{3}{4}$, ♀ 2 inches.

Hab. GUATEMALA, San Gerónimo (*Champion*); PANAMA, David (*Champion*).

Allied to *F. agava*, but very different in colour both on the upper- and undersides. Two specimens.

8. **Focilla lala,** sp. n. (Tab. XXXIII. fig. 7.)

Male. Primaries and secondaries dark reddish-brown, crossed from the costal to the inner margin by four indistinct darker brown waved lines; the primaries with the line nearest the base greyish, the apex of the wing blackish, a greyish-brown oval spot at the end of the cell, and a large round black spot on the inner margin about halfway between the base and the anal angle; the secondaries crossed by four waved lines, the second line from the base formed by minute black dots; the fringe pale greyish-brown; the underside pale brown, with all the lines crossing the wings black: head, palpi and antennæ, and the thorax and abdomen above dark reddish-brown, the underside of the thorax and of the abdomen pale greyish-brown, the legs greyish. The female similar to the male, but considerably duller, greyer in colour, and with the markings on the underside much more indistinct, the black spot on the inner margin of the primaries above obsolete. Expanse, ♂ ♀, $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Bugaba (*Champion*).

This species varies in colour; and the black spot on the inner margin of the primaries is only present in the male example. *F. lala* is allied to *F. angularis*, Möschl., from Jamaica, and may be only a form of that insect; but, as we have not any Jamaican specimens for comparison, and it differs very greatly from Möschler's figure, I have treated it as distinct. Our figure is taken from the Bugaba example.

9. **Focilla relata.**

Focilla relata, Walk. Cat. xv. p. 1533 [1].

Mazacyla fusifera, Walk. Cat. xxxiii. p. 945 [2] (apud Butler, Trans. Ent. Soc. Lond. 1879, p. 56).

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—WEST COAST OF AMERICA (*Capt. Kellett* [1]); AMAZONS, Villa Nova [1]; SOUTH-EAST BRAZIL, Rio Janeiro [2].

One worn specimen of this species was captured by Mr. Champion in Chiriqui; it very closely resembles those in the National Museum. In the shape of the wings *F. relata* differs considerably from all the species of *Focilla* known to us, the primaries being longer and the secondaries more rounded; but the palpi are similar in form to those of the other members of the genus.

AZATHA.

Azatha, Walker, Cat. xv. p. 1534 (1858); Butler, Trans. Ent. Soc. Lond. 1879, p. 56.

Walker founded this genus upon an insect from Honduras; and Mr. Butler, in his paper upon the Lepidoptera of the Amazons, also includes *Phalæna Noctua marcellina*, Cram., in it.

1. **Azatha retardens.**

Azatha retardens, Walk. Cat. xv. p. 1534[1].

Hab. HONDURAS (*Dyson*[1]).

The type in the National Museum is the only specimen we have seen.

TAUTOBRIGA.

Tautobriga, Walker, Char. of Undescr. Lep. Het. p. 56 (1869); Butler, Trans. Ent. Soc. Lond. 1879, p. 56.

Tautobriga, the type of which is in the British Museum, is allied to *Focilla*, but differs greatly from it in the form of the palpi and in the shape of the apex and outer margin of the primaries.

1. **Tautobriga euspila.**

Tautobriga euspila, Walk. Char. of Undescr. Lep. Het. p. 56[1]; Butl. Trans. Ent. Soc. Lond. 1879, p. 56[2].

Amphigonia (?) *erythropus*, Feld. & Rogenh. Reise der Nov., Lep. t. 118. f. 25, Erkl. der Taf. 118. no. 25[3].

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba 800 to 1500 feet, Caldera 1200 feet (*Champion*).—COLOMBIA, Bogota[3]; AMAZONS, Manaos[2]; BRAZIL[3].

I have not the least doubt that *A. erythropus*, though the figure is much too highly coloured, is conspecific with *T. euspila*. Our specimens show considerable variation in colour, some being much darker than others; in all of them the spots are of a brownish-grey colour, not pale blue as they are represented by Felder and Rogenhofer.

Walker[1] gives the locality as "Limas," a place not to be found on any map I have seen; many of the other species described by him in the same paper, all of which are from Norris's collection, are from Peru.

GALAPHA.

Galapha, Walker, Cat. xv. p. 1544 (1858).

One species from the Amazons was included in *Galapha* by Walker; we now add a second from Central America. The genus is allied to *Tautobriga*.

1. **Galapha ageta**, sp. n. (Tab. XXXIII. fig. 8, ♂.)

Male. Primaries and secondaries dark brown, with a greyish shade over them; the primaries with a large oval spot at the end of the cell edged with white at the lower end, a rather wide darker brown band crossing about the middle from the lower side of the spot to the inner margin, a dark brown spot and a similarly-coloured mark close to the apex, and several minute pale coloured streaks along the costal margin; the secondaries with a dark brown line near the anal angle edged with white close to the anal angle, and with a marginal row of small white dots; the fringe of both wings dark brown; the underside pale brown, yellowish at the apex and along the costal margin of the primaries, the spot at the end of the cell yellowish-white: head, palpi, antennæ, thorax, abdomen, and legs greyish-brown. The female resembling the male, but very much darker in colour. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Dos Arroyos in Guerrero (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); HONDURAS, Ruatan I. (*Gaumer*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Allied to *Focilla bendina*, Feld. & Rogenh., but differing very considerably in colour and markings. It varies to some extent in the size and colour of the spot at the end of the cell of the primaries: in some specimens this is almost white, in others it is reddish-brown. The examples from Ruatan Island are the palest; in the single specimen from Chiriqui the spot on the primaries is larger than in any of the others before us. Mr. Smith's examples were captured in September 1888. A male example from Dos Arroyos is figured.

Fam. AMPHIGONIIDÆ.

AMPHIGONIA.

Amphigonia, Guénée, Sp. gén. des Lép. vii. p. 337 (1852); Walker, Cat. xv. p. 1538, & xxxiii. p. 1031.

Nine species are included in this genus by Walker, four from Tropical America and the others from the tropical regions of the Old World.

1. **Amphigonia insana.**

Amphigonia insana, Guén. Sp. gén. des Lép. vii. p. 338[1]; Walk. Cat. xv. p. 1538[2].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR, Quito [1] [2].

SYLECTRA.

Sylectra, Hübner, Verz. bek. Schmett. p. 341 (1816).
Teratocera, Guénée, Sp. gén. des Lép. vii. p. 339; Walker, Cat. xv. p. 1541.

Hübner's name for this genus must stand: the two species belonging to it are both exceedingly common insects in our region and throughout Tropical South America and the West-Indian Islands.

1. Sylectra ericata.

Phalæna erycata, Cram. Pap. Exot. iii. p. 170, t. 287. f. D (♀)[1], iv. p. 157, t. 370. f. E (♂)[2].
Sylectra ericata, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 440[3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 62.
Syllectra ericata, Möschl. Beitr. zur Schmett.-Fauna von Jamaica, p. 58[4].
Sylectra erycata, Grote, List of North American Moths, p. 42 (1882)[5].
Teratocera ericata, Guén. Sp. gén. des Lép. vii. p. 340[6]; Walk. Cat. xv. p. 1542[7].
Tetratocera ericata, Druce, P. Z. S. 1884, p. 324[8].
Teratocera erycata, Butl. Trans. Ent. Soc. Lond. 1879, p. 58[9].
Syllectra mirandalis, Hübn. Samml. exot. Schmett. ii. t. 223. ff. 1, 2 (♂), 3, 4 (♀).
Sylectra mirandalis, Hübn. Verz. bek. Schmett. p. 342.

Hab. North America[5].—Guatemala, Panzos (*Champion*); Costa Rica (*Van Patten, mus. D.*); Panama, Chiriqui (*Arcé*), Volcan de Chiriqui 3000 feet (*Champion*).—Colombia; Ecuador; Guiana, Surinam[1 2 3 6 7]; Amazons[9]; Antilles, San Domingo[7], Jamaica[4 6 7], Guadaloupe[6 7], Dominica[8].

This is a widely distributed and common species in the warmer parts of America. It varies very much in colour, some specimens being much brighter than others; those from the Antilles are generally the brightest (the two examples before me from Dominica are bright orange-red), but in all other respects they agree with specimens from the mainland, these latter varying in colour from orange-red to dull brown.

2. Sylectra congemmalis.

Syllectra congemmalis, Hübn. Zutr. Samml. exot. Schmett. ii. p. 21, ff. 309, 310.
Sylectra congemalis, Hübn. Verz. bek. Schmett. p. 341.
Teratocera congemmalis, Guén. Sp. gén. des Lép. vii. p. 340[1]; Walk. Cat. xv. p. 1542[2].
Teratocera vitrimacula, Guén. Sp. gén. des Lép. vii. p. 340[3]; Walk. Cat. xv. p. 1542[4].
Sylectra fictilina, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 440, t. 8. f. 14[5]; Beitr. zur Schmett.-Fauna von Surinam, p. 62.

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*); Guatemala, Las Mercedes 3000 feet, Volcan de Atitlan 3500 feet, Pantaleon 1700 feet, Zapote (*Champion*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Arcé, mus. D.*).—Guiana, Surinam[1 2 5], Cayenne[3 4]; Amazons, Santarem[4]; Brazil; Antilles, Cuba, San Domingo[2].

This is a common insect in Guatemala and the State of Panama; from Mexico we

have only received one specimen, captured by Mr. Smith in February 1888. This species varies very much in colour and in the distinctness of the lines on the wings. Examples from Cuba in my own collection are darker, and others from Rio Janeiro are paler in colour; but I have not the least doubt that they all belong to one and the same species.

Fam. THERMESIIDÆ.

SYMPIS.

Sympis, Guénée, Sp. gén. des Lép. vii. p. 343 (1852); Walker, Cat. xv. p. 1548.

The species placed in this genus by Guénée and Walker are all from the tropical regions of the Old World; we have now to record one from Central America.

1. **Sympis agnita**, sp. n. (Tab. XXXIII. fig. 9.)

Primaries and secondaries bright orange-red, thickly irrorated with pale yellow and brown scales, the primaries crossed from the costal to the inner margin by three brownish lines, and also with a submarginal waved line, the secondaries crossed by two narrow brown lines, the fringe of both wings reddish-brown; the underside pale reddish-yellow, thickly irrorated with brown scales: head, thorax, and the base of the abdomen bright orange-red, the rest of the abdomen pale brown; the antennæ, palpi, and legs pale brown. Expanse $1\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Arcé, in mus. D.*), Bugaba 800 to 1000 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A common species in Chiriqui.

ARGIDIA.

Argidia, Guénée, Sp. gén. des Lép. vii. p. 345 (1852); Walker, Cat. xv. p. 1549.

Four species are included in this genus by Walker, and others have since been described by Felder and Rogenhofer, and Butler; all these are from Tropical South America.

Three species are now known to inhabit our region, two of them extending as far north as Southern Mexico.

1. **Argidia calus.**

Argidia calus, Guén. Sp. gén. des Lép. vii. p. 346, Noct. t. 23. f. 10 (♀)[1]; Walk. Cat. xv. p. 1551[2].
Argidia subrubra, Feld. & Rogenh. Reise der Nov., Lep. t. 118. f. 28, Erkl. der Taf. 118. no. 28 (♂)[3].

Hab. MEXICO, Paso de San Juan (*Schaus*); GUATEMALA, Zapote (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Cayenne[1 2]; AMAZONS[3]; EAST PERU.

We cannot agree with Mr. Butler (Trans. Ent. Soc. Lond. 1879, p. 59) in considering *A. subrubra*, Feld. & Rogenh., as conspecific with *A. tarchon* (Cram.). A comparison of the two figures shows they are not in the least alike; but there can be very little doubt that *A. subrubra* is conspecific with *A. calus*, the figure of the latter having been taken from a very dark example.

The Central-American specimens received show a considerable amount of variation in the colour of the upper, but not in that of the under, side.

2. **Argidia wedelina.**

Phalæna Geometra wedelina, Cram. Pap. Exot. iv. p. 229, t. 397. f. M [1].
Argidia wedelina, Feld. Reise der Nov., Lep. t. 118. f. 29, Erkl. der Taf. 118. no. 29 (♀) [2].

Hab. MEXICO, Jalapa (*Schaus*), Coatepec (*Brooks*); PANAMA, Chiriqui (*Ribbe*).—COLOMBIA, Bogota [2]; GUIANA, Surinam [1].

Cramer's figure of this insect is a very poor one; but I have very little doubt that it is intended for this species. Walker has omitted it in his Catalogue.

3. **Argidia palmipes.**

Argidia palmipes, Guén. Sp. gén. des Lép. vii. p. 347 [1]; Walk. Cat. xv. p. 1551 [2].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA [2]; GUIANA, Cayenne [1 2].

On the upperside this species very closely resembles some examples of *A. calus*, Guén.; but on the underside it differs considerably.

ORTHOGRAMMA.

Orthogramma, Guénée, Sp. gén. des Lép. vii. p. 347 (1852); Walker, Cat. xv. p. 1552.
Epitausa, Walker, Cat. x. p. 476, & xv. p. 1712.

As yet, examples of only two species of this genus have been received from Central America. Walker in his Catalogue enumerated eight, seven being placed in *Orthogramma* and one in *Epitausa*, all from South America or the Antilles; others have since been described by Butler, Felder and Rogenhofer, and Möschler.

1. **Orthogramma coppryi.**

Orthogramma coppryi, Guén. Sp. gén. des Lép. vii. p. 348 [1]; Walk. Cat. xv. p. 1553 [2].
Epitausa lætabilis, Walk. Cat. x. p. 477 [3].

Hab. GUATEMALA, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA, Cayenne [1 2]; AMAZONS, Pará [2]; ANTILLES, San Domingo [3].

This appears to be a scarce insect in our region: we have only received three specimens, all captured by Mr. Champion.

2. **Orthogramma (?) lamida,** sp. n. (Tab. XXXIII. fig. 10.)

Primaries and secondaries uniform chrome-yellow, both wings crossed about the middle from the costal to the inner margin by a reddish-brown line edged on the outer side with pinkish-white, the costal margin edged with reddish-brown from the base about halfway to the apex, two zigzag indistinct lines crossing the primaries between the base and the central line, a faint zigzag submarginal line extending from near the apex of the primaries to the inner margin of the secondaries just above the anal angle; the underside pale brownish-yellow, the central brown line as above but very faint: head, antennæ, palpi, thorax, abdomen, and legs pale chrome-yellow. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Panima in Vera Paz (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).

The specimen from Guatemala, from which our figure is taken, is much darker in colour than either of those from the State of Panama. It is quite possible that this insect may require a new genus for its reception; but till more examples are obtained we prefer to place it provisionally in *Orthogramma*. *O. lamida* is apparently allied to the insect figured by Herrich-Schäffer under the name of *Orthogramma dilina*, Guén., a species not mentioned in Guénée's work.

THERMESIA.

Thermesia, Hübner, Verz. bek. Schmett. p. 270 (1816); Guénée, Sp. gén. des Lép. vii. p. 353; Walker, Cat. xv. p. 1560, xxxiii. p. 1037, & xxxv. p. 1973 (pars).

Walker, in his Catalogue, included in this genus a large number of species from all parts of the world; many of these have since proved to belong to distinct genera, and, doubtless, as the others become better known, still more will have to be eliminated from it. Several of the species are extremely common throughout Tropical America and the West-Indian Islands. Five are here enumerated from Central America.

1. Thermesia gemmatalis.

Anticarsia gemmatalis, Hübn. Zutr. Samml. exot. Schmett. i. p. 26, ff. 153, 154; Grote, List of North American Moths, p. 42 (1882).

Thermesia gemmatalis, Guén. Sp. gén. des Lép. vii. p. 355 [1]; Walk. Cat. xv. p. 1560 [2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868 (sep. copy, p. 31) [3]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 443 [4]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 65 [5]; Butl. P. Z. S. 1878, p. 489 [6]; Trans. Ent. Soc. Lond. 1879, p. 62 [7]; Druce, P. Z. S. 1884. p. 324 [8]; Möschl. Beitr. zur Schmett.-Fauna von Jamaica, p. 59 [9].

Thermesia monstratura, Walk. Cat. xv. p. 1564 [10].

Azazia monstratura, Butl. P. Z. S. 1878, p. 489.

Hypernaria detrahens, Walk. Cat. xv. p. 1622 [11].

Remigia subsignata, Walk. Cat. xv. p. 1846 [12].

Hypernaria anisospila, Walk. Charact. of undescr. Lep. Het. p. 58 [13].

Hab. NORTH AMERICA, United States [1].—MEXICO [1], Dos Arroyos 1000 feet, Tierra Colorada 2000 feet, Tepetlapa 3000 feet, all in Guerrero, Teapa in Tabasco (*H. H. Smith*), Cordova (*Rümeli*); GUATEMALA, Volcan de Atitlan 2500 feet, Zapote, San Gerónimo, Cahabon (*Champion*); HONDURAS [2 11], San Pedro (*Whitely, in mus. D.*); COSTA RICA (*Boucard*), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—COLOMBIA [1]; VENEZUELA [2 12]; GUIANA [1], Surinam, Paramaribo [4 5]; AMAZONS [2 7]; BRAZIL [1]; ANTILLES, Cuba [3], San Domingo [2 10], Jamaica [2 6 9], Martinique [1], Guadaloupe [1], Dominica [8], Nevis [2].

This very common and widely-distributed species is found almost everywhere in Tropical America. It varies very considerably, both in colour and markings; but with

a large series before me I cannot separate any as distinct. In some cases the sexes are very different. The variation is confined to the upperside only; on the underside all the specimens are alike. Walker [13] gives "Limas" as the locality for *H. anisospila*. Mr. Smith's Guerrero examples were captured in the months of September and October, and the Teapa ones in February and March.

2. Thermesia dares.

Phalæna Noctua dares, Cram. Pap. Exot. iv. p. 42, t. 310. f. G [1]; Walk. Cat. xv. p. 1567 [2].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe*).—GUIANA, Surinam [1 2].

Our specimens agree fairly well with Cramer's figure, except that they have the brown patch at the apex of the primaries not quite so distinct.

3. Thermesia costalis.

Thermesia costalis, Walk. Cat. xv. p. 1570 [1].

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, El Reposo 800 feet (*Champion*); PANAMA, Chiriqui (*Ribbe; Arcé, mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA [1].

This common Central-American insect varies in colour on the upperside from quite dark brown to pale yellowish-brown. Mr. Smith captured a good series of specimens, between the months of January and April, 1888.

4. Thermesia lenis.

Thermesia lenis, Walk. Cat. xv. p. 1572 [1].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS, Pará [1].

The specimen from Chiriqui in Dr. Staudinger's collection agrees perfectly with Walker's type in the Oxford Museum.

5. Thermesia (?) glaucescens.

Thermesia glaucescens, Walk. Cat. xv. p. 1571 [1].

Hab. GUATEMALA, Coatepeque 1300 feet, San Isidro 1600 feet, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 feet, Zapote (*Champion*).—AMAZONS, Pará [1].

Our Guatemalan specimens do not differ from Walker's type; the species will probably have to be separated from the genus *Thermesia*.

PANGRAPTA.

Pangrapta, Hübner, Verz. bek. Schmett. p. 343 (1816); Butler, Trans. Ent. Soc. Lond. 1879, p. 63.
Chabora, Walker, Cat. xxxiii. p. 1114.
Azeta, Guénée, Sp. gén. des Lép. vii. p. 358 (pars).

The known species of this genus are all from the American continent or the Antilles.

1. Pangrapta repugnalis.

Pangrapta repugnalis, Hübn. Zutr. Samml. exot. Schmett. iii. p. 37, ff. 575, 576; Butl. Trans. Ent. Soc. Lond. 1879, p. 63 [1].

Azeta vampoa, Guén. Sp. gén. des Lép. vii. p. 360, Noct. t. 24. f. 3 (♀) [2]; Walk. Cat. xv. p. 1581 [3].

Azeta rhodogaster, Guén. loc. cit. p. 360 (♂) [4]; Walk. Cat. xv. p. 1582 [5].

Azeta mirzah, Guén. loc. cit. p. 360 [6]; Walk. Cat. xv. p. 1579 [7]; Druce, P. Z. S. 1884, p. 325 [8].

Thermesia fusilinea, Walk. Cat. xv. p. 1564 [9].

Chabora undulifera, Walk. Cat. xxxiii. p. 1114 [10].

Thyridospila (?) *suffusa,* Walk. Cat. xxxv. p. 1971 [11].

Hab. Mexico, Acapulco (*J. J. Walker*), Tierra Colorada 2000 feet, Dos Arroyos 1000 feet, both in Guerrero, Teapa in Tabasco (*H. H. Smith*), Cordova (*Rümeli*), Vera Cruz [5], Valladolid in Yucatan (*Gaumer*); Guatemala, San Isidro 1600 feet (*Champion*); Panama, Chiriqui (*Ribbe*).—Venezuela [11]; Guiana, Cayenne [2 3]; Amazons [1]; Brazil; Antilles, Haiti [6 7], San Domingo [7 9 10], Jamaica [7 9], Dominica [8].

This common and variable species is found over a very extended range of country. Mr. H. H. Smith captured examples of it in the months of April, September, and October, 1888. From Guatemala we only received one specimen, taken at San Isidro by Mr. Champion. The locality for *Azeta rhodogaster* is not stated by Guénée [4].

2. Pangrapta hypopyrina.

Azeta hypopyrina, Feld. & Rogenh. Reise der Nov., Lep. t. 118. f. 19, Erkl. der Taf. 118. no. 19 (♂) [1] (apud Butl. Trans. Ent. Soc. Lond. 1879, p. 63).

Hab. Mexico, Jalisco (*Schumann*), La Venta 300 feet, Venta de Zopilote 2800 feet, Tierra Colorada, Dos Arroyos 1000 feet, all in Guerrero, Teapa in Tabasco (*H. H. Smith*), Coatepec (*Brooks*); Guatemala, Coatepeque 1300 feet, San Isidro 1600 feet, El Jicaro, Panima, Cahabon (*Champion*), Coban (*Conradt*); Panama, Chiriqui (*Arcé, Ribbe*), Volcan de Chiriqui (*Champion*), Panama city (*J. J. Walker*), Colon (*Boucard, mus. D.*).—Guiana [1]; Peru.

A very common insect throughout our region. It varies considerably in colour and size; some of the Mexican specimens are quite pale, with a pinkish tinge showing through from the underside.

3. Pangrapta leucoma.

Azeta leucoma, Feld. & Rogenh. Reise der Nov., Lep. t. 118. f. 20, Erkl. der Taf. 118. no. 20 [1] (apud Butl. Trans. Ent. Soc. Lond. 1879, p. 63).

Hab. Guatemala, El Tumbador 2500 feet (*Champion*); Panama, Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Arcé, Ribbe*).—Ecuador; Amazons [1]; Antilles, Jamaica.

This species varies greatly in colour and in the distinctness of the spots and markings.

HELIA.

Helia, Hübner, Verz. bek. Schmett. p. 259 (1816).

Under this generic name Hübner placed three species, all from Tropical America; one of these belongs to *Cœnipeta.*

1. Helia calligramma.

Helia calligramma, Hübn. Zutr. Samml. exot. Schmett. i. p. 27, ff. 157, 158; Verz. bek. Schmett. p. 259; Butl. Trans. Ent. Soc. Lond. 1879, p. 63 [1].

Cœnipeta calligramma, Walk. Cat. xiii. p. 1093 [2].

Homoptera (?) *albirena,* Walk. Cat. xxxiii. p. 891 [3].

Hab. PANAMA, Obispo (*Salvin, mus. D.*).—GUIANA, Surinam [2]; AMAZONS [1].

Specimens from Obispo agree well with Hübner's figure. The locality for *Homoptera albirena* was unknown to its describer [3].

2. Helia compotrix.

Helia compotrix, Hübn. Zutr. Samml. exot. Schmett. i. p. 29, ff. 177, 178; Verz. bek. Schmett. p. 259.

Cœnipeta compotrix, Walk. Cat. xiii. p. 1093 [1].

Hab. PANAMA, near the city (*J. J. Walker*).—GUIANA, Surinam [1].

3. Helia lampetia, sp. n. (Tab. XXXIII. fig. 11.)

Primaries and secondaries resembling those of *H. compotrix,* Hübn., but with the markings more indistinct; the primaries with a waved zigzag black line, edged on the outer side with bluish-white, crossing the wing beyond the middle from the costal to the inner margin, the outer margin pale fawn-colour; the secondaries with a wide black band extending from the anal angle across the wing towards the apex but not reaching it: head, antennæ, palpi, thorax, abdomen, and legs pale brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

METALECTRA.

Metalectra, Hübner, Zutr. Samml. exot. Schmett. ii. p. 29 (1823); Butler, Trans. Ent. Soc. Lond. 1879, p. 63.

This genus is closely allied to *Selenis.* One species, *M. præcisalis,* from Surinam, was included in it by Hübner; and two others, from the Amazons, have since been added by Butler. *Metalectra* proves to be numerous in species in Central America, whence eleven are now recorded; of these six are described as new.

1. Metalectra præcisalis.

Metalectra præcisalis, Hübn. Zutr. Samml. exot. Schmett. ii. p. 29, ff. 367, 368 [1].

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA, Surinam [1].

Two specimens agreeing well with Hübner's figure have been received from our region.

2. **Metalectra dotata.**

Homoptera dotata, Walk. Cat. xiii. p. 1067 [1].

Metalectra dotata, Butl. Trans. Ent. Soc. Lond. 1879, p. 63 [2].

Hab. Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 2500 to 3500 feet (*Champion*).—Amazons [2], Santarem [1].

This insect is extremely close to *M. præcisalis*, Hübn.; indeed, the only difference I am able to detect is that the underside is very much paler in colour.

3. **Metalectra agathia,** sp. n. (Tab. XXXIII. fig. 12.)

Primaries and secondaries dark blackish-brown, each with two distinct waved black lines crossing about the middle from the costal to the inner margin, the primaries with a brownish spot at the end of the cell and a submarginal pale brown line, the secondaries thickly irrorated with reddish-brown from the middle to the outer margin; the underside of both wings pale brown, crossed by very indistinct lines of a darker colour: head, thorax, and abdomen above dark blackish-brown, beneath very much paler; antennæ, palpi, and legs dark brown. Expanse 1 inch.

Hab. Nicaragua, Chontales (*Janson*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Four specimens are all we have received of this small dull-coloured species; it is allied to *M. dotata*, Walk. A Chiriqui example is figured.

4. **Metalectra zonata.**

Homoptera zonata, Walk. Cat. xxxiii. p. 878 [1]; Butl. Trans. Ent. Soc. Lond. 1879, p. 40 [2].

Metalectra zonata, Butl. loc. cit. p. 64.

Hab. North America, United States [1].—Mexico, Presidio (*Forrer*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Amazons [2].

This species was described by Walker from specimens said to have come from the United States; it is not included by Grote in his Check-list of North-American Moths.

5. **Metalectra scitior.**

Homoptera scitior, Walk. Cat. xxxiii. p. 880 [1].

Homoptera perpusilla, Walk. Cat. xxxiii. p. 881 [2].

Hab. Mexico, Northern Sonora (*Morrison*), Presidio (*Forrer*); Honduras (*Dyson* [1 2]).

We have carefully compared Walker's types, and find that they belong to one and the same species.

6. **Metalectra aglaia,** sp. n.

Primaries and secondaries of a uniform very pale fawn-colour, both wings crossed by narrow zigzag brown lines, the marginal line dark brown, the fringe pale fawn-colour; the underside whitish, without any markings: head, thorax, and abdomen pale fawn-colour; antennæ, palpi, and legs brownish. Expanse 1 inch.

Hab. Mexico, Northern Sonora (*Morrison*).

Allied to *M. scitior*, Walk., but very different in colour.

7. **Metalectra lacerta,** sp. n.

Primaries and secondaries of a uniform brownish-black colour, crossed by indistinct narrow black lines, the submarginal line of both wings brown; the underside of a uniform blackish-brown, without any markings, except a few yellowish spots along the costal margin of the primaries: head, antennæ, palpi, thorax, abdomen, and legs dark brownish-black. Expanse 1½ inch.

Hab. Mexico, Venta de Zopilote in Guerrero 2800 feet (*H. H. Smith*).

Three specimens of this distinct species were captured by Mr. Smith, in October 1888.

8. **Metalectra lineata,** sp. n.

Primaries and secondaries pale greyish-brown, crossed beyond the middle from the costal margin of the primaries to the inner margin of the secondaries by a narrow dark brown line edged on the outer side with a pale greyish line, both wings with a yellowish-brown submarginal line and a dark brown marginal line, the fringe greyish-brown; the underside pale brown, each wing with a very indistinct pale band beyond the middle: head, antennæ, palpi, thorax, abdomen, and legs pale greyish-brown. Expanse 1½ inch.

Hab. Mexico, Northern Sonora (*Morrison*).

Two examples.

9. **Metalectra lampea,** sp. n.

Very similar in colour and form to *M. lineata*. Primaries and secondaries dull brown, without marking of any kind either on the upper or undersides. Expanse 1¼ inch.

Hab. Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Two specimens. Very close to *M. lineata*, but without the lines on the wings.

10. **Metalectra (?) agilaria,** sp. n.

Primaries pale greyish-brown, a spot at the end of the cell and a band of spots beyond the middle dark brown, the latter edged with a yellowish-brown line on each side, the marginal line dark brown; secondaries uniformly pale brown; the fringe pale brown; the underside of both wings pale brown, palest on the costal margin of the primaries and at the anal angle of the secondaries: head, antennæ, palpi, thorax, abdomen, and legs pale brown. Expanse 1 inch.

Hab. Guatemala, San Gerónimo, Cahabon (*Champion*).

This species appears to be common at San Gerónimo; it varies considerably, the dark brown spots being almost obsolete in some specimens.

11. **Metalectra (?) ypsilon.**

Metalectra (?) *ypsilon*, Butl. Trans. Ent. Soc. Lond. 1879, p. 64[1].

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Amazons[1].

One specimen from Chiriqui in Dr. Staudinger's collection, agreeing well with Mr. Butler's type in the National Museum. This species can scarcely be retained in the genus *Metalectra*.

MULELOCHA.

Mulelocha, Walker, Cat. xxxiii. p. 1103 (1865); Butler, Trans. Ent. Soc. Lond. 1879, p. 64.

Walker founded this genus upon an Amazonian insect which he had previously

described under a different generic and specific name. I also refer to it *Selenis vitriluna*, Guén.

1. Mulelocha extranea.

Homoptera (?) *extranea*, Walk. Cat. xxxiii. p. 881 [1].
Mulelocha extranea, Butl. Trans. Ent. Soc. Lond. 1879, p. 64 [2].
Mulelocha frontalis, Walk. Cat. xxxiii. p. 1103 [3].
Var. *Blanona* (?) *dives*, Walk. loc. cit. p. 1106 [4].
Var. ? *Selenis compacta*, Feld. & Rogenh. Reise der Nov., Lep. t. 118. f. 1, Erkl. der Taf. 118. no. 1 (♀) [5].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS [2 5], Pará [1 3 4].

Two specimens captured by Mr. Champion on the Pacific slope of Guatemala and two from Chiriqui in Dr. Staudinger's collection are all we have seen from Central America. Walker described the species three times, and on each occasion placed it in a different genus. Mr. Butler states [2] that *Selenis compacta*, Feld. & Rogenh., is probably an extreme variety of *M. extranea*, and in this we quite agree with him.

2. Mulelocha vitriluna.

Selenis vitriluna, Guén. Sp. gén. des Lép. vii. p. 364 [1]; Walk. Cat. xv. p. 1584 [2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 447 [3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 69 [4].

Hab. PANAMA, Chiriqui (*Ribbe*).—GUIANA, Cayenne [1 2], Surinam [3 4]; AMAZONS, Pará [2].

In Dr. Staudinger's collection the male of this insect is labelled *S. reductiluna*, Guén.; but this name, I believe, is an unpublished one. The species is much better placed in the genus *Mulelocha*; it is, in fact, very closely allied to *M. extranea*, Walk.

SELENIS.

Selenis, Guénée, Sp. gén. des Lép. vii. p. 361 (1852); Walker, Cat. xv. p. 1582.

The species of this genus inhabit Tropical America or the West-Indian Islands; seven are now recorded from within the limits of our fauna. They are all obscure, and as yet we have not received anything like sufficient material to make them out satisfactorily.

1. Selenis sueroides.

Selenis sueroides, Guén. Sp. gén. des Lép. vii. p. 362 [1]; Walk. Cat. xv. p. 1583 [2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868 (sep. copy, p. 32) [3]; Butl. Trans. Ent. Soc. Lond. 1879, p. 67 [4].

Hab. MEXICO, Tepetlapa in Guerrero 3000 feet (*H. H. Smith*), Cordova (*Rümeli*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—TRINIDAD; ECUADOR; AMAZONS [4], Pará [1]; BRAZIL [1 2], Rio Janeiro; ANTILLES, San Domingo [2], Cuba [3], Martinique [1].

A common species in Tropical South America and the West-Indian Islands, but apparently rare in Central America. The pale costal streak varies very considerably in colour; in some specimens it is very much brighter than in others. Examples from Rio Janeiro in my own collection are greyer in colour than any from Central America.

2. **Selenis lanipes.**

Selenis lanipes, Guén. Sp. gén. des Lép. vii. p. 363, Noct. t. 24. f. 4 (♂)[1]; Walk. Cat. xv. p. 1584.

Hab. GUATEMALA, Coban (*Conradt*); PANAMA, Chiriqui (*Arcé, in mus. D.*), Bugaba 1000 feet (*Champion*).

Specimens from Chiriqui agree well with Guénée's figure; the one from Coban is darker in colour and rather larger, but I have no doubt that it belongs to the same species. We have only received one specimen from each of the above localities. Guénée's type was from an unknown locality [1].

3. **Selenis dentata.**

Selenis dentata, Walk. Cat. xxxiii. p. 1067[1].

Selenis anguinea, Feld. & Rogenh. Reise der Nov., Lep. t. 118. f. 2, Erkl. der Taf. 118. no. 2 (♀)[2].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota [1]; ECUADOR; BRAZIL [2].

Judging from the series before me, this species varies very much in colour, though none are quite so pale as Felder and Rogenhofer's figure. Walker's type is now in my own collection.

4. **Selenis agarrha**, sp. n. (Tab. XXXIII. fig. 13.)

Primaries pale brownish-white at the base and along part of the costal margin, the apex and the rest of the wing dark brown, crossed beyond the middle from the costal to the inner margin by a waved black line, exterior to which are several indistinct brown lines, the spot at the end of the cell white and Λ-shaped, a marginal row of small greyish spots extending from the apex to the anal angle; secondaries pale brownish-white, crossed between the base and the middle by three waved lines—the first two brown, the third black,—below which two indistinct pale lines cross towards the apex, the costal margin broadly bordered with dark brown; the underside fawn-colour, clouded with dark brown along the outer margin of the primaries and at the apex of the secondaries: head (except in front), thorax, the base of the abdomen, and the anus pale greyish-brown, the rest of the abdomen brown; the antennæ, the front of the head, and palpi dark brown; the legs and the underside of the thorax and abdomen pale greyish-brown. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen of this pretty little species was captured by Mr. Smith in March 1888; it is not closely allied to any other known to us.

5. **Selenis agna**, sp. n. (Tab. XXXIII. fig. 14.)

Primaries pale fawn-colour, shaded with darker brown, with a dark brown band extending from the apex to the inner margin close to the anal angle, a large brown mark (almost like an inverted V) between the band and the base on the inner margin, two narrow brown lines crossing close to the base from the costal to the inner margin, a white streak at the end of the cell, and beyond this a faint pale-coloured line; secondaries the same colour as the primaries, crossed beyond the middle by two narrow whitish lines; the

outer margin of both wings edged with a narrow black line; the underside very much as above, but considerably paler in colour: head, thorax, abdomen, and legs pale brown, the antennæ and palpi brown. Expanse $1\frac{1}{10}$ inch.

Hab. Mexico, Presidio, near Mazatlan (*Forrer*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

Our figure is drawn from the Chiriqui specimen.

6. **Selenis lacia,** sp. n. (Tab. XXXIII. fig. 15.)

Primaries and secondaries pale reddish-fawn-colour, both wings crossed by very fine slightly darker waved lines; the primaries at the base and along the costal margin almost to the apex shaded with bluish-white, the end of the cell streaked with white; on the outer margin of both wings about the middle is a large bluish-black spot; the underside considerably paler than above, with the lines much more distinct: head, thorax, and abdomen reddish-brown, the antennæ and legs brown. Expanse $1\frac{4}{10}$ inch.

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen of this very distinct species has been kindly communicated to us by Dr. Staudinger.

7. **Selenis laonome,** sp. n. (Tab. XXXIII. fig. 16.)

Primaries and secondaries fawn-colour; the primaries from the base to the apex broadly bordered with dark brown, crossed by paler lines, a brown spot at the end of the cell edged with white, and two dusky brown spots on the inner margin close to the anal angle; the secondaries crossed beyond the middle from the apex to the inner margin by several dark brown lines; the underside dusky fawn-colour, thickly irrorated with black scales, both wings crossed by indistinct brown lines; the fringe fawn-colour: head and thorax dark brown, the abdomen and the four hinder legs fawn-colour, the front legs dark brown, the underside of the head and thorax pale fawn-colour, the antennæ dark brown. Expanse $1\frac{3}{10}$ inch.

Hab. Guatemala, Senahu in Vera Paz 2800 feet (*Champion*).

A single example of this distinct species was captured by Mr. Champion; it is allied to *S. dentata*, but very distinct.

THYRIODES.

Thyriodes, Guén. Sp. gén. des Lép. vii. p. 364 (1852); Walker, Cat. xv. p. 1586.

Guénée founded *Thyriodes* upon an insect received from Mexico; this is now known to extend southwards to the State of Panama, but we have no evidence of its occurrence in the northern part of South America.

1. **Thyriodes flabellum.**

Thyriodes flabellum, Guén. Sp. gén. des Lép. vii. p. 365[1]; Walk. Cat. xv. p. 1586[2].

Hab. Mexico[1,2], Teapa in Tabasco (*H. H. Smith*); Guatemala, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo, Senahu (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 2500 to 3500 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).

We are indebted to Mons. C. Oberthür for kindly sending us Guénée's types of this species, both of which are males. The female varies very considerably. In some specimens the pale lines crossing the primaries are almost obsolete; those from Costa Rica are the smallest we have seen.

EPHYRODES.

Ephyrodes, Guénée, Sp. gén. des Lép. vii. p. 365 (1852); Walker, Cat. xv. p. 1587, and xxxiii. p. 1070.

Walker included eleven species in this genus, nine from Tropical South America or the Antilles and two from Ceylon, several of them being of very doubtful value. Five species are known to us from Central America.

1. **Ephyrodes cacata.**

Ephyrodes cacata, Guén. Sp. gén. des Lép. vii. p. 366, Noct. t. 24. f. 7 (♂)[1]; Walk. Cat. xv. p. 1587[2].

Hab. Costa Rica (*Gabb, mus. D.*); Panama, Chiriqui (*Arcé, in mus. D.*).—Colombia [1 2]; Venezuela [2]; Antilles, Cuba [1 2], San Domingo [2].

This species varies very much in colour, many specimens being much darker than Guénée's figure. Apparently a common insect in Tropical America.

2. **Ephyrodes implens.**

Ephyrodes implens, Walk. Cat. xv. p. 1588[1].

Ephyrodes jurgiosa, Walk. loc. cit. p. 1590[2].

Hab. Guatemala, Las Mercedes 3000 feet, Zapote, Capetillo (*Champion*); Panama, Volcan de Chiriqui 3000 feet (*Champion*), Chiriqui (*Ribbe*).—Venezuela [2]; Antilles, San Domingo [1].

Also a variable species in size and colour. Examples communicated to me by Dr. Staudinger were labelled *Thermesia nobilis*.

3. **Ephyrodes similis,** sp. n. (Tab. XXXIII. fig. 17.)

Primaries and secondaries reddish-fawn-colour, the former with a dark blackish-brown spot at the end of the cell; both wings crossed beyond the middle by a white line edged on the inner side with dark brown, and with a submarginal row of minute white spots; the underside pale fawn-colour, thickly irrorated with black scales: head, thorax, and abdomen pale fawn-colour, the antennæ and palpi pale brown, the legs fawn-colour. The female similar to the male, but a little more dusky in colour. Expanse $1\frac{3}{4}$ inch.

Hab. Panama, Chiriqui (*Arcé, in mus. D.; Ribbe, in mus. Staudinger*).

Some specimens of this insect are very much paler than others.

4. **Ephyrodes læna,** sp. n. (Tab. XXXIII. fig. 18, ♂.)

Primaries and secondaries pale pinkish-brown, darkest at the base, the primaries crossed from the costal to the inner margin by two waved very narrow brown lines; both wings with a dark brown line crossing beyond the middle, a submarginal row of minute brown dots extending from the apex to the anal angle, and the outer margin edged with dark brown, the secondaries with two minute brown spots in the cell: head, thorax, abdomen, and legs pale pinkish-brown, the antennæ and palpi brown. Expanse $1\frac{4}{10}$ inch.

Hab. Mexico, Rio Papagaio in Guerrero 1200 feet (*H. H. Smith*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

One example from each locality, both males. The Mexican specimen agrees with the one from Chiriqui in Dr. Staudinger's collection, but is considerably brighter in colour; our figure is taken from the former.

5. **Ephyrodes bipunctata.**

Thermesia bipunctata, Walk. Cat. xxxiii. p. 1048[1] (apud Butl. Trans. Ent. Soc. Lond. 1879, p. 62).

Hab. MEXICO, Venta de Zopilote in Guerrero 2800 feet (*H. H. Smith*), Paso de San Juan (*Schaus*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*).—AMAZONS, Ega[1].

Mexican specimens are greyer than any of the others we have seen.

FREILLA, gen. nov.

Male. Body long and slender, extending considerably beyond the wings; palpi broad, ascending above the head, the third joint long, almost the length of the second; antennæ slender, slightly pectinated; legs stout; primaries long and rather narrow, the outer margin slightly concave to the middle and thence to the anal angle very oblique; secondaries much dentated from the apex to the anal angle. *Female.* Body considerably shorter than in the male, hardly extending beyond the hind wings; the palpi smaller and more slender; the antennæ simple.

Two species from Central America are referred to this new genus, which is perhaps nearest allied to *Ephyrodes.*

1. **Freilla variabilis,** sp. n. (Tab. XXXIII. fig. 19, ♂.)

Male. Primaries and secondaries pinkish-fawn-colour, palest near the base; the primaries with two or three white streaks along the costal margin, and crossed by several faint reddish lines; the secondaries with a dark central line extending from the costal to the inner margin, below which are two rows of reddish-brown spots, and with two small dark brown dots at the end of the cell; the fringe of both wings reddish-brown: head, and the thorax and abdomen in great part, pinkish-fawn-colour, the base of the thorax and of the abdomen fawn-colour, the anal tuft yellowish-brown, the antennæ and legs brown. The female is similar to the male, but very much duller in colour. Expanse, ♂ 1½, ♀ 1¼ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet, Zapote, Panima in Vera Paz (*Champion*); PANAMA, Chiriqui (*Arcé, Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Apparently a common insect in Mexico and Guatemala. It is extremely variable in colour. Our figure is taken from a bright-coloured male specimen captured by Mr. Smith at Teapa in February 1888.

2. **Freilla humeralis,** sp. n. (Tab. XXXIII. fig. 20.)

Male. Primaries and secondaries greyish-brown, thickly irrorated with grey scales; the primaries crossed by four indistinct waved brown lines (the fourth from the base reddish-brown), and with a spot in the cell and one at the end of the cell blackish-brown, the outer margin near the apex dark brown; the secondaries with a black dot at the end of the cell, and crossed below the middle by two rows of reddish-brown spots; the fringe of both wings reddish-brown; the underside much the same as above, but slightly paler in colour: head, thorax, and abdomen above and beneath greyish-brown, the palpi, antennæ, and legs darker brown, the anal tuft yellowish-brown. The female is generally paler in colour than the male, and has the spot at the end of the cell on the primaries usually more distinct. Expanse 2 inches.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro 1600 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Arcé, Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The Mexican specimens of this insect, captured by Mr. H. H. Smith in February 1888, and from one of which our figure is taken, are all darker in colour than those from more southern localities, and in some of them the underside is shot with a pink tinge.

CALLISCOTUS.

Calliscotus, Butler, P. Z. S. 1878, p. 489.

Butler founded *Calliscotus* upon an insect from Jamaica, which is now known to us from our region. It bears a slight resemblance to the Geometrid genus *Scotosia*, as noted by its author.

1. Calliscotus bowreyi.

Calliscotus bowreyi, Butl. P. Z. S. 1878, p. 489[1].

Hab. MEXICO, Dos Arroyos 1000 feet, Tierra Colorada 2000 feet, both in Guerrero (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*).—ANTILLES, Jamaica [1].

Our specimens are almost identical with Mr. Butler's type in the National Collection. The Mexican examples were captured by Mr. H. H. Smith during the months of September and October 1888; the one from Guatemala is very much stained, but I have no doubt it belongs to the same species.

MARMORINIA.

Marmorinia, Guénée, Sp. gén. des Lép. vii. p. 370 (1852); Walker, Cat. xv. p. 1597.

Guénée included four species in this genus, two from North America and two from India; a fifth is now added from Central America. The North-American species, one of which is said to be from Georgia, are omitted from Grote's Check-list.

1. Marmorinia curviluna, sp. n. (Tab. XXXIII. fig. 21.)

Primaries and secondaries dull greyish-fawn-colour, slightly darker round the outer margin; the primaries crossed from the costal to the inner margin by two narrow waved yellowish-brown lines (the first near the base, the second beyond the cell); the secondaries crossed about the middle by a yellowish-brown straight line extending from the middle of the costal margin to just above the anal angle, where it forms the outer limit of a large black spot; both wings with a submarginal row of minute black spots extending round the outer margin, and a white lunular-shaped mark at the end of the cell; the underside paler than above, with the white markings more distinct: head, thorax, and abdomen greyish-fawn-colour, the antennæ and legs brown. The female is duller in colour than the male, and has the black spot at the anal angle of the secondaries very much smaller. Expanse, ♂ ♀, $1\frac{1}{4}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Zapote, San Gerónimo, Panima (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

This small insect has a very wide distribution in our region. Our figure is taken from a Chiriqui specimen in Dr. Staudinger's collection.

HEMEROPLANIS.

Hemeroplanis, Hübner, Verz. bek. Schmett. p. 259 (1816).
Mandela, Walker, Journ. Linn. Soc., Zool. ix. pp. 181, 192.

Mandela was founded by its author upon a single species, *M. crocea*, from Bogota. This is nearly allied to *Hemeroplanis pyraloides*, Hübn., and cannot, I think, be separated generically from it. Walker's types are now in my own collection.

1. Hemeroplanis pyraloides.

Hemeroplanis pyraloides, Hübn. Verz. bek. Schmett. p. 259.
Hemeroplanis pyralis, Hübn. Zutr. Samml. exot. Schmett. i. p. 23, ff. 127, 128 [1].
Heliothis pyralis, Walk. Cat. xi. p. 687 [2].
Thermesia aurora, Walk. Cat. xxxiii. p. 1039 [3].
Pleonectyptera pyralis, Grote, List of North-American Moths, p. 41 (1882) [4].

Hab. North America [4], Georgia [1 2], Florida [1 2].—Mexico, Dos Arroyos 1000 feet, Chilpancingo 4600 feet, Tierra Colorada 2000 feet, all in Guerrero, Cuernavaca, Atoyac in Vera Cruz (*H. H. Smith*); Guatemala, San Gerónimo (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—Antilles, San Domingo [3].

This is a very common and exceedingly variable insect in Mexico and Guatemala. Some specimens agree exactly with Hübner's figure, while others are a pale straw-colour, with only the faintest indication of the dark margins to the wings, these extremes being connected by intermediate forms. The females are generally darker than the males.

GIGIA.

Gigia, Walker, Cat. xxxiii. p. 941 (1865); Butler, Trans. Ent. Soc. Lond. 1879, p. 48.

Walker founded this genus upon a worn specimen from an unknown locality; subsequently Mr. Butler identified an insect from the Amazons with it, and we have now to record its occurrence from within our southern limits.

1. Gigia obliqua.

Gigia obliqua, Walk. Cat. xxxiii. p. 942; Butl. Trans. Ent. Soc. Lond. 1879, p. 48 [1].
Brotis (?) *stenogaster*, Feld. & Rogenh. Reise der Nov., Lep. t. 119. f. 5, Erkl. der Taf. 119. no. 5 (♂) [2].

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Guiana [2]; Amazons [1].

Two specimens in Dr. Staudinger's collection are all we have seen from Central America.

MASSALA.

Massala, Walker, Cat. xxxiii. p. 977 (1865).

A single species, from Jamaica, was included in *Massala* by Walker; this, according to Mr. Butler, being identical with the previously-described *Azeta quassa* of the same author. The typical species is now known to inhabit Central America, whence one other is here described.

1. **Massala quassa.**

Azeta quassa, Walk. Cat. xv. p. 1581 (1858)[1].

Massala dimidiata, Walk. Cat. xxxiii. p. 977[2] (1865) (apud Butl. Trans. Ent. Soc. Lond. 1879, p. 63).

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—ANTILLES, Jamaica [1 2], San Domingo [1].

2. **Massala larina**, sp. n. (Tab. XXXIII. fig. 22.)

Primaries with the base, the costal margin, and a large space near the apex bright reddish-brown, the other part of the wing pale brown clouded with greyish-white, a greyish-white rather broad band extending from the apex to the inner margin close to the anal angle, and a dark brown waved line crossing the wing about the middle from the costal to the inner margin; secondaries pale brown, with a very indistinct submarginal greyish-white band extending from the apex to the anal angle; the underside dark brown, both wings slightly greyish at the base, the secondaries with three faint brown lines crossing from the costal to the inner margin: head and thorax reddish-brown, the tegulæ tipped with greyish-white, the abdomen above and beneath pale brown, the antennæ and palpi reddish-brown, the legs dark brown banded with white. Expanse 2 inches.

Hab. GUATEMALA, Coban (*Conradt*).

One specimen. This distinct species is allied to *M. quassa* (=*dimidiata*), Walk. It may be an extreme form of *Azeta obvertens*, Walk., examples of which are before me from Ecuador. The latter, without doubt, should be placed in the genus *Massala*: according to Mr. Butler (Trans. Ent. Soc. Lond. 1879, p. 63) it is a *Capnodes*, and *C. turtur*, Feld. & Rogenh., belongs to the same species.

CAPNODES.

Capnodes, Guénée, Sp. gén. des Lép. vii. p. 374 (1852); Walker, Cat. xv. p. 1600, and xxxiii. p. 1072; Butler, Trans. Ent. Soc. Lond. 1879, p. 68; Grote, List of North American Moths, p. 42 (1882).

Gerisa, Walker, Cat. xv. p. 612.

This genus includes a large number of species, the majority of which are from Tropical America or the Antilles. We have to record twenty-one from Central America.

1. **Capnodes rufinans.**

Capnodes rufinans, Guén. Sp. gén. des Lép. vii. p. 377, Noct. t. 24. f. 9 (♂)[1]; Walk. Cat. xv. p. 1603[2]; Möschl. Beitr. zur Schmett.-Fauna von Jamaica, p. 60[3].

Gerisa discerpta, Walk. Cat. xv. p. 1612[4] (apud Möschl. Beitr. zur Schmett.-Fauna von Jamaica, p. 60).

Thermesia torrida, Walk. Cat. xxxiii. p. 1044[5] (apud Möschl. loc. cit., and Butl. Trans. Ent. Soc. Lond. 1879, p. 62).

Hab. HONDURAS [2] (*Dyson* [4 5]).—BRAZIL [1 2]; ANTILLES, Jamaica [3].

We have not received any specimens of this insect.

2. **Capnodes imitans.**

Capnodes imitans, Walk. Cat. xv. p. 1606[1]; Butl. Trans. Ent. Soc. Lond. 1879, p. 68[2].

Capnodes exhilarans, Walk. Cat. xv. p. 1609 [3].
Capnodes uncinata, Feld. & Rogenh. Reise der Nov., Lep. t. 119. f. 10, Erkl. der Taf. 119. no. 10 (♀) [4].
Noctua abydas, Herr.-Schäff. Samml. aussereur. Schmett., App. f. 565.
Mazacyla abydas, Butl. Trans. Ent. Soc. Lond. 1879, p. 56 [5].

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); HONDURAS [1]; PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA; ECUADOR; AMAZONS [2 5]; BRAZIL [4].

This species varies slightly: among the large series of specimens before me several agree with Felder and Rogenhofer's figure of *C. uncinata*, but I am unable to separate them from *C. imitans*, Walk. Mr. Smith captured one female example of this species in February 1888; it is considerably duller in colour than the male. The locality for *C. exhilarans* was unknown to its author [3].

3. Capnodes sobria.

Thermesia sobria, Walk. Cat. xxxiii. p. 1044 [1].
Capnodes sobria, Butl. Trans. Ent. Soc. Lond. 1879, p. 69 [2].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS [2].

Dr. Staudinger's specimen is the only one we have seen from our region; it agrees fairly with Walker's type, now in the British Museum. The locality for the latter is given as "Limas" [1].

4. Capnodes orbiculata.

Capnodes orbiculata, Feld. & Rogenh. Reise der Nov., Lep. t. 118. f. 14, Erkl. der Taf. 118. no. 14 (♂) [1]; Butl. Trans. Ent. Soc. Lond. 1879, p. 69 [2].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA, Bogota; GUIANA, Surinam [1]; AMAZONS [1 2].

There is a single example of this species from Chiriqui in Dr. Staudinger's collection; it agrees with numerous others we have received from Tropical South America.

5. Capnodes anyx.

Capnodes anyx, Guén. Sp. gén. des Lép. vii. p. 378 [1]; Walk. Cat. xv. p. 1604 [2].

Hab. GUATEMALA, Zapote (*Champion*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL [1 2].

This seems to be a variable insect, judging from the specimens before us.

6. Capnodes lara, sp. n. (Tab. XXXIII. fig. 23.)

Primaries and secondaries brown, palest at the base, both wings crossed from the costal to the inner margin by two waved rows of minute yellow spots and with the outer margins edged with minute black dots, the fringe brown; the underside considerably paler in colour: head, thorax, and abdomen brown, the legs pale brown; the palpi brown, the third joint tipped with black; the antennæ dark brown. Expanse 1 inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen. Allied to *C. anyx*, Guén.

7. Capnodes subcinerascens.

Hypernaria subcinerascens, Walk. Cat. xv. p. 1614[1].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet (*Champion*); COSTA RICA, Rio Sucio (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*). —ECUADOR; ANTILLES, San Domingo[1].

H. subcinerascens, Walk., without doubt, belongs to *Capnodes* and not to *Hypenaria* (=*Hypernaria*, Walk.); it is allied to *C. anyx*, Guén. Chiriqui specimens differ from those from the other localities in being slightly brighter in colour, and more shaded with dark brown on the underside of the secondaries.

8. Capnodes sterope.

Phalæna Noctua sterope, Cram. Pap. Exot. iv. p. 40, t. 309. f. E, and t. 312. f. C[1].

Capnodes sterope, Guén. Sp. gén. des Lép. vii. p. 378[2]; Walk. Cat. xv. p. 1604[3]; Butl. Trans. Ent. Soc. Lond. 1879, p. 68[4]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 453[5]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 75[6].

Capnodes obliterata, Walk. Cat. xv. p. 1600[7].

Capnodes sufficiens, Walk. Cat. xv. p. 1606[8].

Thermesia bipustulata, Walk. Journ. Linn. Soc., Zool. ix. p. 192[9].

Capnodes steropioides, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 453[10]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 75[11].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Zapote (*Champion*); HONDURAS (*Dyson*[8]); PANAMA, Volcan de Chiriqui 2500 to 3000 feet (*Champion*).—COLOMBIA, Bogota[9]; GUIANA, Surinam[1 2 3], Paramaribo[5 6 10 11]; AMAZONS[4]; ANTILLES, San Domingo[7].

This species varies considerably, not only in size but in colour. The type of *Thermesia bipustulata*, Walk., is now in my own collection; it is not separable from *C. sterope*. According to Möschler, Cramer's figures represent two species, but in this I do not agree with him, the large series of specimens before me showing every grade from one to the other.

9. Capnodes lacteigera.

Capnodes lacteigera, Butl. Trans. Ent. Soc. Lond. 1879, p. 70[1].

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—AMAZONS, Rio Negro[1].

Our numerous Chiriqui specimens agree well with Butler's type in the National Museum. *C. bira*, Feld. & Rogenh., from Venezuela, is very closely allied to *C. lacteigera*.

10. Capnodes laranda, sp. n.

Primaries pale brown, crossed by three very indistinct darker brown lines, and with two white streaks on the costal margin; secondaries brown, crossed by indistinct darker brown lines, and with a black dot at the end of the cell; the underside pale brown, both wings crossed by indistinct brown lines and with a black

dot at the end of the cell: head, thorax, and abdomen brown, the same colour as the wings; antennæ reddish-brown; legs pale brown. Expanse 1½ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

Allied to *C. lacteigera*, Butl., from which it is at once distinguished by the entire absence of the red markings on the wings.

11. **Capnodes sexplagiata.**

Capnodes sexplagiata, Walker, Cat. xv. p. 1607 [1].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS, Santarem [1].

I have retained Walker's name for this insect, though Mr. Butler (Trans. Ent. Soc. Lond. 1879, p. 73) considers it to be conspecific with *Phalæna Pyralis pueritia*, Cram., from the coast of Coromandel; I have not, however, seen any eastern specimens. Dr. Staudinger's example from Chiriqui does not agree well with Cramer's figure, and it is hardly likely to belong to the same species.

12. **Capnodes linula.**

Capnodes linula, Guén. Sp. gén. des Lép. vii. p. 378 [1]; Walk. Cat. xv. p. 1608.

Hab. PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

A small dull-coloured species, of which we have only received three specimens. The locality was unknown to Guénée [1].

13. **Capnodes agrotera**, sp. n.

Primaries and secondaries uniform dark brown, without markings of any kind, the underside slightly paler in colour: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse 1½ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen of this very dull-coloured insect is contained in Dr. Staudinger's collection; it is not nearly allied to any other species of the genus known to us.

14. **Capnodes leucospila.**

Capnodes (?) *leucospila*, Walk. Cat. xxxiii. p. 1076 [1].

Hab. GUATEMALA, Cerro Zunil 4000 feet (*Champion*); PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

The type in the National Collection is from an unknown locality [1].

15. **Capnodes subrutilans.**

Thermesia subrutilans, Walk. Cat. xv. p. 1567 [1].

Capnodes incarnans, Feld. & Rogenh. Reise der Nov., Lep. t. 119. f. 14, Erkl. der Taf. 119. no. 14 (♂) [2].

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*); PANAMA, Chiriqui (*Arcé, in mus. D.*). —AMAZONS [2], Pará [1], Ega [1].

We have only received two specimens of this insect from our region; it varies considerably in colour.

16. **Capnodes melanea.**

Phalæna Geometra melanea, Cram. Pap. Exot. iv. p. 130, t. 357. f. E; Walk. Cat. xv. p. 1603 [1].

Capnodes melanea, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 453 [2]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 75 [4] (nec Guénée).

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Paramaribo [2 3]; BRAZIL [1].

Dr. Staudinger's specimen from Chiriqui is very like Cramer's figure above quoted; it has, however, all the spots rather larger, but I have no doubt that it belongs to the same species.

17. **Capnodes inconspicua.**

Capnodes inconspicua, Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1868 (sep. copy, p. 33) [1].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ANTILLES, Cuba [1].

This species is included in our fauna upon the authority of Dr. Staudinger, who has sent us his Chiriqui specimen labelled as above.

18. **Capnodes alceste,** sp. n. (Tab. XXXIII. fig. 24.)

Primaries and secondaries dark cream-colour, thickly irrorated with reddish-brown scales, the primaries with a dark brown band crossing from the costal to the inner margin close to the base and a dark brown mark on the costal margin close to the apex, the outer margin of both wings pale reddish-brown; the underside pale cream-colour, almost without any brown scales: head and thorax cream-colour, thickly speckled with brownish-black scales, the abdomen cream-colour, the antennæ and palpi pale brown, the legs cream-colour. Expanse $1\frac{1}{10}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

A very distinct little insect, not allied to any other species of *Capnodes* known to us.

19. **Capnodes alcinoe,** sp. n. (Tab. XXXIII. fig. 25.)

Primaries dark brown, the outer margins streaked with grey lines, a wide dusky-fawn-coloured band crossing the wing about the middle from the costal to the inner margin; secondaries from the base to beyond the middle dusky-fawn-colour, the outer half dark brown, crossed by very fine greyish waved lines; the marginal line of both wings dotted with black; the fringe pale brown; the underside pale brown, both wings crossed by dark brown lines: head, thorax, and abdomen reddish-brown, the antennæ and legs brown. Expanse 1 inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

We have only seen one specimen of this pretty little *Capnodes*; it is quite unlike any other Central-American member of the genus.

20. **Capnodes lappa,** sp. n. (Tab. XXXIII. fig. 26.)

Primaries and secondaries dark fawn-colour, thickly mottled with darker brown; the primaries with a row of minute black spots crossing from the costal to the inner margin, two large black spots on the costal margin (the first close to the base, the second the largest and near the apex), and a black spot close to the base on the inner margin; the secondaries crossed about the middle by a row of small black dots, below which are two rows of indistinct brown lines; the underside paler than above and crossed by faint brown lines: head, thorax, and abdomen dark fawn-colour, the base of the thorax blackish, the abdomen paler

beneath, the antennæ and palpi almost black; the front legs black, the others fawn-colour. Expanse $\frac{3}{10}$ inch.

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen only of this distinct species was captured; it is allied to *C. alceste*.

21. **Capnodes (?) argina,** sp. n. (Tab. XXXIII. fig. 27.)

Primaries and secondaries pale fawn-colour, crossed about the middle by two broken lines of dark brown spots, beyond which are several rows of indistinct brown lines, the marginal line formed of black dots, the fringe pale fawn-colour; the underside paler than above, but with the lines almost similar: head, thorax, abdomen, legs, antennæ, and palpi fawn-colour. Expanse $1\frac{3}{10}$ inch.

Hab. PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

C. argina is doubtfully included in the genus *Capnodes*: it differs in having the wings slightly longer, and the third joint of the palpi longer and more pointed. One specimen.

PARANYMPHA.

Paranympha (Cramer), Butler, Trans. Ent. Soc. Lond. 1879, p. 73.

Paranympha was proposed by its author to include two species, *Phalæna toxea*, Cram., and *Paranympha albocostata*, Butl., both from Tropical South America, the former being now known from as far north as Southern Mexico.

1. **Paranympha toxea.**

Phalæna Noctua toxea, Cram. Pap. Exot. iv. p. 133, t. 358. ff. G, H [1].
Plaxia toxea, Walk. Cat. xv. p. 1627 [2].
Paranympha toxea, Butl. Trans. Ent. Soc. Lond. 1879, p. 73.
Thermesia (?) *generatrix*, Walk. Cat. xxxiii. p. 1051 [3].
Ctypansa megaspila, Walk. Cat. xxxiii. p. 1079 [4].

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, El Tumbador 2500 feet, Cerro Zunil 4000 feet, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet, Senahu, Panzos (*Champion*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—COLOMBIA, Bogota [4]; GUIANA, Surinam [1 2]; AMAZONS, Ega [3].

Exceedingly variable in colour: some specimens are pale mouse-colour and others dark brown, with almost every intermediate shade. A few examples have a large black spot on the secondaries, which gives them a very different appearance; but we have others that just show a black dot in the middle of the usual greyish spot on these wings. In our country *P. toxea* is a common species, and Mr. Champion has sent us a large series of examples. *Ctypansa megaspila*, Walk., the type of which is in my own collection, is inseparable from it.

HYPENARIA.

Hypenaria, Guénée, Sp. gén. des Lép. vii. p. 381 (1852).
Hypernaria, Walker, Cat. xv. p. 1613, & xxxiii. p. 1080.

Walker, in his Catalogue, included thirty-nine species in this genus, and others have since been described by Felder and Rogenhofer, Butler, Möschler, &c., all from Central or South America or the Antilles. Differently-coloured specimens of the same species have in numerous cases been described as distinct by Walker; and many others placed in the genus by this author do not belong to it. Several of these latter have been referred to other genera by Mr. Butler. I have a very large series of specimens before me of some of the species, and find that they vary to a great extent in colour. Of the four from Central America here referred to *Hypenaria*, two are only provisionally included in it.

1. Hypenaria augusta.

♂. *Phalæna Geometra augusta*, Cram. Pap. Exot. iv. p. 227, t. 397. f. F[1].
Hypenaria augusta, Guén. Sp. gén. des Lép. vii. p. 383[2]; Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 460[3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 82.
Hypernaria augusta, Walk. Cat. xv. p. 1617[4].
♂. *Phalæna eulalia*, Stoll, Suppl. Cram. Pap. Exot. p. 54, t. 12. f. 2[5].
Hypenaria eulalia, Guén. Sp. gén. des Lép. vii. p. 384[6].
Hypernaria eulalia, Walk. Cat. xv. p. 1617[7].
♂. *Hypenaria miniopila*, Guén. Sp. gén. des Lép. vii. p. 382, Noct. t. 23. f. 8[8].
Hypernaria miniopila, Walk. Cat. xv. p. 1616[9].
Hypenaria miniophila, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 460[10]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 82.
♀. *Hypenaria binocula*, Guén. Sp. gén. des Lép. vii. p. 384[11].
Hypernaria binocula, Walk. Cat. xv. p. 1617[12].
♀. *Hypernaria unanimis*, Walk. Cat. xv. p. 1613[13].
♀. *Hypernaria concordans*, Walk. Cat. xv. p. 1619[14].
♀. *Hypernaria gemina*, Walk. Cat. xxxiii. p. 1081[15].
♂. *Hypernaria tenebrifica*, Walk. Cat. xxxiii. p. 1084[16].
♂. *Hypernaria interlineata*, Walk. Cat. xxxiii. p. 1084[17].
♀. *Hypenaria ampelina*, Feld. & Rogenh. Reise der Nov., Lep. t. 119. f. 30, Erkl. der Taf. 119. no. 30[18].

Hab. Mexico (*Sallé*[13]), Cuesta de Misantla (*M. Trujillo*), Paso de San Juan, Jalapa (*Schaus*), Teapa in Tabasco (*H. H. Smith*); Guatemala, El Tumbador, Las Mercedes 3000 feet, San Isidro 1600 feet, Volcan de Atitlan 2500 feet, Zapote, San Gerónimo, Balheu, Cubilguitz (*Champion*); Costa Rica (*Gabb, mus. D.*); Panama, Chiriqui (*Ribbe; Trötsch, mus. Staudinger; Arcé, mus. D.*), Volcan de Chiriqui 2500 to 3500 feet (*Champion*), Panama city (*J. J. Walker*).—Colombia, Bogota[15 17]; Venezuela[14], Puerto Cabello[3]; Guiana, Surinam[1 2 4 5 6 7 10], Cayenne[8 9 11 12], Paramaribo[3 10]; Amazons, Pará[16]; Brazil[7 18].

With a very large series of specimens before me of this exceedingly variable insect from our region, I am quite unable to separate any of the above as distinct species: of several I have the types, and of the others examples that have been compared and named from the types. In no locality is any one form constant; and if I were to admit the above-named forms as distinct species, I should have to name at least another dozen. On the underside, all the specimens are similar, except that some have a more reddish tinge than others. Mr. Butler's remarks (Trans. Ent. Soc. Lond. 1879, p. 74) respecting *Hypenaria binocula*, Guén., are misleading: Guénée gave no reference to Cramer, beyond putting "C." after the specific name; neither does he "declare that he described the species from a figure," but from two female specimens from Cayenne in coll. Feisth. An example named from these is now before me, and it is, without doubt, a female of *H. augusta* (Cram.*); therefore, Walker's view was the correct one, and the "mirage" must have been in Mr. Butler's mind, as his remarks partly seem to refer to *H. eulalia*, which Guénée states that he described from Stoll's figure.

2. Hypenaria fellearis.

Apistis fellearis, Hübn. Zutr. Samml. exot. Schmett. ii. p. 30, ff. 379, 380[1].
Hypernaria (?) *fellearis*, Walk. Cat. xv. p. 1619[2].
Hypenaria phæocycla, Guén. Sp. gén. des Lép. vii. p. 385[3].
Hypernaria phæocycla, Walk. Cat. xv. p. 1618[4].
Hypernaria metastigma, Walk. Cat. xv. p. 1621[5].
Hypernaria rudis, Walk. Cat. xxxiii. p. 1081, & xxxv. p. 1973[6].
Hypernaria rubripalpis, Walk. Cat. xxxiii. p. 1080[7].

Hab. MEXICO (*Boucard, mus. D.*), Paso de San Juan (*Schaus*), Atoyac, Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Coatepeque, San Isidro 1600 feet, Zapote, Cubilguitz, Panima (*Champion*); PANAMA, Chiriqui (*Arcé, mus. D.; Ribbe, mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*), Colon (*Boucard, mus. D.*). —COLOMBIA, Bogota; VENEZUELA[5]; GUIANA; AMAZONS, Santarem[6], Ega[7]; BRAZIL ([3 4]), Bahia[1 2]; TRINIDAD.

This insect is exceedingly common in Central America, whence we have received a large series of specimens. It varies to a very great extent on the upperside, not only in colour but in the size and shape of the black spots on the primaries, these spots in some of the males being greenish instead of black. The underside is similar in both sexes and shows very little variation, some examples being merely a shade darker than others. Specimens of *Hypenaria phæocycla*, determined by Guénée, are before me, and they are, without doubt, the males of *H. fellearis*. Mr. H. H. Smith captured a large number of examples in Mexico, between the months of February and May, 1888.

3. Hypenaria (?) tenebrosa.

Hypernaria (?) *tenebrosa*, Walk. Cat. xxxiii. p. 1089[1].

* Not *angusta* as written by Butler (loc. cit.).

Hab. GUATEMALA, Cerro Zunil 4000 feet (*Champion*); COSTA RICA, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—AMAZONS, Ega [1].

One worn specimen from each locality.

4. **Hypenaria (?) umbrigens,** sp. n. (Tab. XXXIV. fig. 1.)

Male. Primaries and secondaries reddish-brown; both wings crossed by a central dark reddish-brown line shaded on the inner side with pinkish-brown, and with a submarginal row of minute reddish-brown spots; the primaries with a reddish line near the base, an indistinct reddish-brown mark at the end of the cell, and the costal margin blackish at the base; the underside uniformly brown, with a darker brown line crossing both wings; the fringe dark reddish-brown: head and collar blackish-brown; the thorax, tegulæ, abdomen, antennæ, palpi, and legs dark brown; the front legs furnished with a large brush of reddish-brown hairs. The females similarly marked to the males, but (in the three specimens before me) much paler in colour. Expanse $2\frac{1}{4}$ inches.

Hab. PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui (*Champion*).

A very variable species, no two examples of which are exactly alike. The one figured is a dark form from the Volcan de Chiriqui. There is a specimen of this insect in the National Museum labelled with a ticket in Walker's handwriting, which I am unable to decipher with any certainty; but I believe it to be "*umbrigens*,' though, so far as I am aware, it has not been described under that name.

CHAMINA.

Chamina, Hübner, Verz. bek. Schmett. p. 271 (1816).
Thermesia, Groupe iii., Guénée, Sp. gén. des Lép. vii. p. 357.
Varia, Walker, Journ. Linn. Soc., Zool. ix. p. 190.

A well-marked genus in no way resembling *Thermesia*, with which Guénée associated it. It contains a few species from Central or South America or the Antilles.

1. **Chamina ceramina.**

Chamina ceramina, Hübn. Verz. bek. Schmett. p. 271.
Chamyna ceramina, Hübn. Samml. exot. Schmett. ii. t. 205. ff. 1–4.
Thermesia ceramina, Guén. Sp. gén. des Lép. vii. p. 357; Walk. Cat. xv. p. 1567 [1].
Plaxia sera, Walk. Cat. xv. p. 1628 [2].

Hab. MEXICO, Omealca near Orizaba (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*), San Isidro 1600 feet, Zapote, San Gerónimo (*Champion*); HONDURAS (*Dyson* [2]); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui 2500 to 3500 feet, David (*Champion*).—VENEZUELA [1]; BRAZIL (? [1]); ANTILLES, Dominica.

A common insect in our region. It is exceedingly variable in colour, both on the upper and undersides; and is not at all constant in any one locality. One or two specimens from Guatemala have quite a green shade on the wings. *Plaxia sera*, Walk., is nothing but a dark form of the same species.

2. **Chamina homichlodes.**

Chamina homichlodes, Hübn. Verz. bek. Schmett. p. 271.
Chamyna homichlodes, Hübn. Samml. exot. Schmett. ii. t. 204. ff. 1–4.
Varia rubiginea, Walk. Journ. Linn. Soc., Zool. ix. p. 190[1].

Hab. GUATEMALA, Capetillo (*Champion*); PANAMA, Chiriqui (*Ribbe; Trötsch, mus. Staudinger*), Volcan de Chiriqui 2000 to 5000 feet (*Champion*).—COLOMBIA, Bogota[1].

Some of our specimens of this species are much darker than others. *Varia rubiginea*, Walk., the type of which is now in my own collection, is inseparable from *C. homichlodes.*

3. **Chamina (?) lamponia,** sp. n. (Tab. XXXIV. fig. 2.)

Primaries and secondaries greyish-brown; the primaries crossed from the costal to the inner margin by two reddish-brown lines (the first near the base, the second beyond the middle), and with a number of minute yellowish-white dots on the outer edge of the second of these, a large yellowish-white spot on the inner margin, several reddish-brown lunular-shaped markings close to the apex, a large pale reniform spot at the end of the cell, and below the latter a faint reddish-brown waved line extending to the inner margin; the secondaries crossed about the middle by a reddish-brown line edged on the outer side with a row of very minute yellowish-white dots, and with a submarginal row of reddish-brown spots with black points extending from near the apex almost to the anal angle; the fringe of both wings brown above, pinkish beneath; the underside of the primaries pale brown, that of the secondaries greyish-white, the latter brownish along the costal margin and at the apex, both wings crossed about the middle by an indistinct brown line, the secondaries with a dark brown spot at the end of the cell: head and part of the thorax and abdomen greyish-brown, the sides and under surface of the thorax and abdomen, and the last two segments of the latter yellowish-white; the legs brown, white on the inner side; the antennæ and palpi reddish-brown. Expanse $2\frac{1}{4}$ inches.

Hab. PANAMA, Chiriqui (*Trötsch, mus. Staudinger*), Volcan de Chiriqui 3000 feet (*Champion*).

Our description and figure are taken from Dr. Staudinger's specimen, the one captured by Mr. Champion being in very poor condition; the latter is rather darker in colour.

ORSA.

Orsa, Walker, Cat. xxxiii. p. 1112 (1865).

Walker founded this genus upon an insect from the Amazons, which is now known to us from as far north as Guatemala; a second, from the State of Panama, is provisionally added.

1. **Orsa erythrospila.**

Orsa erythrospila, Walk. Cat. xxxiii. p. 1112[1].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS, Ega[1].

From Guatemala we have received one specimen of this insect, and there are two from Chiriqui in the collection of Dr. Staudinger.

2. **Orsa (?) agola,** sp. n. (Tab. XXXIV. fig. 3.)

Primaries and secondaries dark brown, thickly speckled with greyish scales, an indistinct brown line crossing both wings about the middle from the costal to the inner margin, the primaries with several rather large greyish spots near the apex, the fringe brown; the underside pale brown, with very faint lines crossing both wings: head, thorax, abdomen, antennæ, and legs brown, paler on the underside. Expanse 1½ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

This insect is provisionally referred to the genus *Orsa*, from which it differs in having the primaries more rounded.

Fam. DELTOIDÆ.

Subfam. *PLATYDINÆ.*

MACRODES *.

Macrodes, Guénée, Sp. gén. des Lép. viii. p. 12 (1854); Walker, Cat. xvi. p. 4.
Euclystis (pars), Hübner, Verz. bek. Schmett. p. 341.

Guénée included three species in this genus, and others have since been described. *Macrodes* seems to be peculiar to Tropical America; some of its species are found over a very extended range of country, but they are nowhere common.

1. **Macrodes cynara.**

Phalæna Geometra cynara, Cram. Pap. Exot. i. p. 23, t. 15. ff. C, D [1].
Euclystis cynara, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 480 [2]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 102.
Geometra cynata, Fabr. Syst. Gloss. p. 128.
Euclystis cynaralis, Hübn. Samml. exot. Schmett. ii. t. 224. ff. 3, 4 (♀); Verz. bek. Schmett. p. 341.
Macrodes cynaralis, Guén. Sp. gén. des Lép. viii. p. 13 [3]; Walk. Cat. xvi. p. 5 [4].

Hab. NICARAGUA, Chontales (*Belt*).—ECUADOR; GUIANA, Surinam [1 2 3], Cayenne [1 3]; AMAZONS, Pará [4].

2. **Macrodes columbalis.**

Euclystis cynaralis, Hübn. Samml. exot. Schmett. ii. t. 224. ff. 1, 2 (♂).
Macrodes columbalis, Guén. Sp. gén. des Lép. viii. p. 14 [1]; Walk. Cat. xvi. p. 5 [2].
Euclystis columbalis, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 480, t. 8. fig. 6 [3]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 102, t. 8. fig. 6.

Hab. PANAMA, Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA [2]; GUIANA, Cayenne [1 2]; BRAZIL [2].

A rare species, of which we have only received two specimens from our region, both females.

* The name *Macrodes* is preoccupied in Coleoptera; but it is not adopted in the Munich Catalogue.

3. **Macrodes gyges.**

Phalæna gyges, Cram. Pap. Exot. ii. p. 9, t. 102. f. B [1].

Euclystis gyges, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 103 [2]; Beitr. zur Schmett.-Fauna von Surinam, iii. p. 103.

Macrodes gygesalis, Guén. Sp. gén. des Lép. viii. p. 14 [3]; Walk. Cat. xvi. p. 5 [4].

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, near the city (*J. J. Walker*).—VENEZUELA [4]; GUIANA, Surinam [1 2 3 4].

Two males of this species are all we have seen from our region.

4. **Macrodes myodes.**

Euclystis myodes, Feld. & Rogenh. Reise der Novara, Lep. t. 119. fig. 22, Erkl. der Taf. 119. no. 22 (♂)[1].

Hab. PANAMA, Chiriqui (*Ribbe*).—BRAZIL [1]; AMAZONS [1].

Two specimens received from Chiriqui seem to belong to this species.

5. **Macrodes leyna**, sp. n. (Tab. XXXIV. fig. 4.)

Primaries and secondaries pale purplish-brown, darkest towards the costal margins and at the base; the markings very much like those of *M. myodes*, Feld. & Rogenh., but not so distinct, the central band being of a yellowish-brown colour; the costal margin of the primaries narrowly edged with pale fawn-colour: head, thorax, and abdomen purplish-brown, the anal tuft yellowish; antennæ and legs pale brown. Expanse 1½ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Allied to *M. declinata*, Möschl., from which it may be at once distinguished by the narrower primaries and the entirely different colour. We are indebted to Dr. Staudinger for lending this insect to us for description.

AMETRIS.

Ametris, Hübner, Verz. bek. Schmett. p. 303 (1816); Guénée, Sp. gén. des Lép. ix. p. 387; Walker, Cat. xvi. p. 6.

Two species were placed in this genus by Guénée, one of these being of very doubtful value; both are from Tropical America.

1. **Ametris netrix.**

Phalæna netrix, Cram. Pap. Exot. ii. p. 87, t. 151. f. E.

Phalæna netrata, Fabr. Syst. Gloss. p. 136.

Ametris netricaria, Hübn. Verz. bek. Schmett. p. 303; Guén. Sp. gén. des Lép. ix. p. 388, Phalénites, t. 15. f. 1 (♂)[1].

Ametris netricalis, Walk. Cat. xvi. p. 6 [2].

Hab. GUATEMALA, Cubilguitz and San Juan in Vera Paz, Volcan de Atitlan 2500 to 3500 feet, Zapote (*Champion*).—COLOMBIA; VENEZUELA [2]; GUIANA, Berbice [1]; BRAZIL [2]; ANTILLES [2].

This species appears to be generally rare, but from Guatemala we have received a fair number of specimens.

2. **Ametris cordovaria.**

Ametris cordovaria, Guén. Sp. gén. des Lép. ix. p. 388 (♂)[1].
Ametris cordovalis, Walk. Cat. xvi. p. 6[2].
Hab. MEXICO, Cordova, Vera Cruz [1 2].

CANATHA.

Canatha, Walker, Cat. xxxiv. p. 1125 (1865).

Walker states that this genus is "allied to *Platydia*, from which it may be distinguished by the structure of the palpi"; the two species he included in it are both from Tropical America, one from the Amazons, the other from Honduras.

1. **Canatha subangularis.**

Canatha subangularis, Walk. Cat. xxxiv. p. 1126[1].
Hab. HONDURAS (*Dyson* [1]).

GUSTIANA.

Gustiana, Walker, Cat. xxiv. p. 1099 (1862).
Gaala, Walker, Cat. xxxiv. p. 1128.

Walker founded the genus *Gustiana* upon a Brazilian insect which he had already described as a *Platydia*, with which it does not agree; we therefore retain the generic name used by him when describing the species a second time in the Geometridæ.

1. **Gustiana abditalis.**

Platydia abditalis, Walk. Cat. xvi. p. 11 (1858)[1].
Gustiana subflexata, Walk. Cat. xxiv. p. 1100[2].
Herminia (?) *figuralis,* Walk. Trans. Ent. Soc. Lond. 1862, p. 112[3]; Walk. Cat. xxxiv. p. 1158[4].
Gaala dispunctalis, Walk. Cat. xxxiv. p. 1129[5].
Hab. GUATEMALA, San Gerónimo (*Champion*).—BRAZIL [2 3 4 5], Rio Janeiro [1].

I have compared the types of Walker's species and find that they are without doubt conspecific; all his specimens are from South-east Brazil.

2. **Gustiana libitina,** sp. n. (Tab. XXXV. fig. 1, ♂.)

Male. Primaries pale greyish-brown, crossed from the costal to the inner margin by two yellowish-brown lines (the first near the base, the second beyond the middle), a very faint waved submarginal line extending from the apex to the inner margin close to the anal angle, and a blackish streak at the end of the cell; secondaries uniformly greyish-white, the marginal line brown, the fringe grey: head, thorax, and upperside of the abdomen greyish-brown, the underside of the latter and the legs yellowish-brown

antennæ greyish, rather deeply pectinated. The female similar to the male, but slightly lighter in colour and with simple antennæ. Expanse, ♂ $1\frac{1}{4}$, ♀ $1\frac{1}{10}$ inch.

Hab. MEXICO, Omilteme in Guerrero 8000 feet, Cuernavaca in Morelos (*H. H. Smith*), Jalapa (*M. Trujillo*).

Mr. Herbert Smith met with this insect in the months of June and August, 1888 the specimens from Omilteme are considerably the largest. The species is allied to *G. abditalis*. A male example from Omilteme is figured.

3. **Gustiana limæa,** sp. n. (Tab. XXXV. fig. 2, ♂.)

Male. Primaries pale greyish-brown, crossed from the costal to the inner margin by four faint brown waved lines (the first near the base and the other three beyond the middle), a row of minute black dots extending from the apex to the anal angle, the fringe dark greyish-brown; secondaries uniformly greyish-brown, the fringe rather darker: head, thorax, and abdomen greyish-brown, the underside of the latter and the legs yellowish-brown, the palpi dark brown. The female similar to the male but paler in colour. Expanse, ♂ ♀, 1 inch.

Hab. MEXICO, Cuernavaca in Morelos, Amula in Guerrero 6000 feet (*H. H. Smith*).

A small species allied to *G. libitina*, from which it is at once distinguished by the different position of the bands on the primaries.

Subfam. *HYPENINÆ.*

PTERHEMIA.

Pterhemia, Guénée, Sp. gén. des Lép. viii. p. 23 (1854); Walker, Cat. xvi. p. 19.
Pessida, Walker, Cat. xv. p. 1641 (1858).

This genus is represented in Central America by a single species, a specimen of which is contained in Dr. Staudinger's collection.

1. **Pterhemia ameriola,** sp. n. (Tab. XXXV. fig. 3, ♂.)

Male. Primaries dark brown, paler near the base, an indistinct narrow waved brown line crossing the wing near the base from the costal to the inner margin, a round yellowish-white dot in the middle of the cell and a similarly-coloured fine waved line crossing from the costal margin near the apex to the inner margin, the outer margin broadly banded with pale brown, an elongated dark brown spot close to the apex; secondaries pale brown, darkest on the inner margin, several indistinct yellowish-white lines partly crossing the wing from the anal angle; the underside uniform pale dusky brown, both wings crossed beyond the middle by a yellowish-white line somewhat broken into spots: head, thorax, and abdomen pale brown, the anus yellowish; antennæ brown; palpi and legs dark brown. Expanse $1\frac{3}{10}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Allied to *P. multilatalis*, Guén., from Cayenne, but entirely different in colour. We are indebted to Dr. Staudinger for kindly lending us the specimen to describe and figure.

HYPENA.

Hypena, Schrank, Fauna Boica, p. 163 (1802); Walker, Cat. xvi. p. 21.

Representatives of this genus are found all over the world, and some of them are extremely variable. In Tropical America many of the species are very common. Thirty-nine are here recorded from Central America, twenty-two of which are described as new. It is possible that some of these latter may have been named by Walker; but as the types of several of his species are not to be found in the National Collection or in the Oxford Museum, I am unable to speak of them with certainty.

The *Hypenæ* are almost always found in shady places in woods.

1. **Hypena lividalis.**

Pyralis lividalis, Hübn. Eur. Schmett. vi. t. 2. fig. 11 (♂), t. 29. fig. 186 (♀).

Ophiuche lividalis, Hübn. Verz. bek. Schmett. p. 344.

Hypena lividalis, Treitschke, Schmett. Eur. vii. p. 33; Duponch. Hist. Nat. Lép. Fr., Noct. v. 2, p. 55, t. 213 (Pyral. t. 3), fig. 3 [1]; Herr.-Schäff. Schmett. Eur. ii. p. 426; Guén. Sp. gén. des Lép. viii. p. 38 [2]; Walk. Cat. xvi. p. 26 [3].

Hypena abjuralis, Walk. Cat. xvi. p. 68 [4].

Hypena scissalis, Walk. Cat. xxxiv. p. 1133 [5].

Hab. Mexico, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Antilles, Cuba [1 2], San Domingo [5].—South Europe [1 2 3]; Sicily [1 2].

Our specimens from Mexico and Chiriqui are almost identical with others from Europe; it is quite impossible to separate them. *H. abjuralis*, Walk., was described [4] from an example from an unknown locality, and it does not differ in the least from *H. lividalis* (Hübn.). *H. scissalis*, Walk., from San Domingo, agrees precisely with Central-American specimens. In our region the insect appears to be rare; we have only seen four examples.

2. **Hypena manalis.** (Tab. XXXIV. fig. 5.)

Hypena manalis, Walk. Cat. xvi. p. 33 (♂) [1], p. 79 (♀) [2].

Hypena (Bomolocha) manalis, Grote, List of North-American Moths, p. 43 (1882) [3].

Hab. North America, United States [1 2 3].—Guatemala, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Guatemalan specimens closely resemble others from North America in the National Collection.

3. **Hypena abrasalis.**

Hypena abrasalis, Walk. Cat. xvi. p. 39 (♂) [1].

Hab. Mexico (*Sallé* [1]).

Walker states that the male of this species is like *Hormisa absorptalis*, Walk., from the United States, in structure. The specimen in the National Collection is the only one we have seen.

4. **Hypena pilosalis.** (Tab. XXXIV. fig. 6.)

Hypena pilosalis, Guén. Sp. gén. des Lép. viii. p. 33 (♂) [1].
Hypena subidalis, Guén. loc. cit. p. 32 (♀) [2]; Walk. Cat. xvi. p. 40 [3].
Hypena megaspila, Walk. Journ. Linn. Soc., Zool. ix. p. 193 [4].

Hab. MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); HONDURAS, (*Miller* [3]).—COLOMBIA, Bogota [4]; BRAZIL [2], Rio Janeiro [3]; ANTILLES [3], San Domingo [3], Haiti [1].

We have received examples of both sexes of this insect from Mexico, captured in the months of February and May, 1888, by Mr. Herbert Smith. The males have a tuft of pale yellowish hairs on the abdominal margin of the secondaries, the insect thus differing from the typical *Hypena*. Walker's type of *H. megaspila*, a female, is now in my own collection; it does not differ from the same sex of *H. pilosalis*. Guénée also described the female under a different name. A Mexican specimen is figured.

5. **Hypena andraca,** sp. n. (Tab. XXXIV. fig. 7.)

Primaries pinkish-brown, with a large V-shaped dark brown mark about the middle of the costal margin edged on both sides with a pale narrow line, the outer margin from the apex to the middle of the inner margin broadly banded with brown, the fringe dark brown; secondaries dull dark brown, the fringe slightly paler in colour; the underside of both wings uniformly pale greyish-brown, without markings of any kind: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse 1½ inch.

Hab. GUATEMALA, Las Mercedes 3000 feet, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Allied to *H. pilosalis*, but very different in colour; it shows very little variation in marking. A specimen from the Volcan de Atitlan is figured.

6. **Hypena lua,** sp. n. (Tab. XXXIV. fig. 8.)

Primaries pale brown, with a dark brown almost circular mark edged with pale brown near the apex, a large dark brown marking on the inner margin about the middle—extending to the base but not quite reaching it, and across the wing almost to the costal margin—edged with yellowish-white, and two minute black points, edged with yellow on the outer margin, above the anal angle; secondaries dark brown; the fringe of both wings brown; the underside of both wings pale brown, the secondaries crossed from the costal to the inner margin by a dark brown line: head and thorax pale brown, the antennæ, palpi, legs, and abdomen dark brown. Expanse 1 inch.

Hab. MEXICO, State of Durango (*Forrer*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Not closely allied to any species of the genus known to us. A Chiriqui specimen is figured.

7. **Hypena variabilis,** sp. n. (Tab. XXXIV. figg. 9–20.)

Primaries varying in colour from dark reddish-brown to very dark brown, or from almost black to pale grey, usually crossed from the costal to the inner margin by two brown lines (in some specimens these are close together, and in others they are wide apart, in several they are wanting altogether or the band nearest the base is absent), sometimes pale brown at the base with the outer half very dark in colour, sometimes with these colours reversed; secondaries uniformly dark brown; the fringe of both wings brown, that of the primaries varying in colour according to the tint of the wing; the underside of both wings dull dark brown, but not showing the slightest variation in colour in any of the different varieties: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Milpas in Durango 5900 feet (*Forrer*), Amula 6000 feet, Xucumanatlan 7000 feet, both in Guerrero, Cuernavaca in Morelos (*H. H. Smith*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, Panajachel 5000 feet, Volcan de Atitlan 2500 to 3500 feet, Calderas, Dueñas, San Gerónimo (*Champion*).

This species varies to any extent. We have a very large series of specimens before us, and cannot in any way separate the different forms or varieties into species. Nearly all the examples received from Mr. Herbert Smith were captured in the month of August, 1888. We have figured twelve of the most distinct-looking varieties, selected from our series of 130 specimens, scarcely two of which are exactly alike. Mr. Champion found this insect commonly on the pine-clad slopes of the Chuacus mountains, above San Gerónimo; he states that in the daytime it appears to secrete itself amongst the fallen pine-needles or under low bushes.

8. **Hypena livia,** sp. n. (Tab. XXXIV. fig. 21.)

Primaries dark reddish-brown, mottled with reddish-brown along the outer margin and at the anal angle, the costal margin from the base to the apex blackish-brown, a large subtriangular black mark extending from the base across the middle of the wing, the inner margin and fringe reddish-brown; secondaries dull blackish-brown, the fringe pale yellowish-brown; the underside of both wings pale blackish-brown: head, thorax, and abdomen dark brown, the palpi and antennæ black, the legs brown. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Volcan de Chiriqui 4000 to 5000 feet (*Champion*).

Allied to *H. variabilis*, but a larger and differently-shaped insect; the palpi are also longer and more slender. Our figure is taken from the example from the Volcan de Chiriqui.

9. **Hypena anemosa,** sp. n. (Tab. XXXIV. fig. 22.)

Primaries pinkish-brown, the costal margin broadly bordered with reddish-fawn-colour, a dark brown streak near the apex, the basal half of the wing bronzy-green, the inner margin edged with white, some minute black spots near the anal angle; secondaries pale brown; the fringe of both wings brown; the underside pale brown, without markings of any kind: head, palpi, and thorax greyish-brown, the abdomen brown, the antennæ and legs pale brown. Expanse $1\frac{3}{5}$ inch.

Hab. MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Zapote (*Champion*).

The Mexican specimen is figured.

10. **Hypena vetustalis.** (Tab. XXXIV. fig. 23.)

Hypena vetustalis, Guén. Sp. gén. des Lép. viii. p. 35 (♀)[1]; Walk. Cat. xvi. p. 40[2].

Hab. MEXICO, Dos Arroyos 1000 feet, Rio Papagaio 1200 feet, both in Guerrero, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ANTILLES, San Domingo[2], Haiti[1].

Our Mexican specimens agree with those from San Domingo in the British Museum; the former were captured at various times between the months of January and October, 1888.

11. **Hypena dispunctalis.** (Tab. XXXIV. fig. 24.)

Hypena dispunctalis, Walk. Cat. xxxiv. p. 1144 (♀)[1].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—BRAZIL, San Paulo.

In our region this is a common insect. Walker's type in the National Collection is from an unknown locality[1]. The species varies considerably in colour, from light to dark brown; according to Walker it is allied to *H. laceratalis*, from Hindostan and Ceylon.

12. **Hypena securalis.** (Tab. XXXIV. fig. 25.)

Hypena securalis, Guén. Sp. gén. des Lép. viii. p. 35 (♂)[1]; Walk. Cat. xvi. p. 44[2].

Hab. COSTA RICA, Rio Sucio (*Rogers*).—VENEZUELA[2]; BRAZIL[1 2].

Our Costa Rican specimen does not differ from the one from Venezuela in the National Collection.

13. **Hypena pacificalis.** (Tab. XXXIV. fig. 26.)

Hypena pacificalis, Walk. Cat. xvi. p. 45 (♂)[1].

Hab. MEXICO, Rio Papagaio 1200 feet, Dos Arroyos 1000 feet, both in Guerrero, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo, Cerro Zunil 4000 to 5000 feet (*Champion*).—WEST COAST of AMERICA (*Capt. Kellett*[1]).

Guatemalan specimens are similar to Walker's type in the National Collection; those from Mexico vary considerably, both in colour and in the distinctness of the markings. Mr. Smith's specimens were captured in the months of January, February, September, and October, 1888. A Guatemalan specimen is figured.

14. **Hypena lanassa,** sp. n. (Tab. XXXIV. fig. 27.)

Primaries dark brown, crossed from the costal to the inner margin by two pale brown waved lines which are edged on the inner side with black and on the outer side with bluish-white (the first near the base, the second beyond the middle), a black dot in the cell, the wing thickly irrorated with minute bluish-white scales at the base and along the inner margin, a spot at the apex and one close to the anal angle pale

yellowish-brown, the fringe pale brown; secondaries pale blackish-brown, the marginal line black, the fringe pale brown; the underside brown, with darker brown lines crossing the wings, these lines more distinct in some specimens than in others: head, thorax, palpi, antennæ, and legs dark brown, the abdomen pale brown. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalisco (*Schumann*), Coatepec (*Brooks*); GUATEMALA, San Gerónimo (*Champion*).

Varies considerably in colour, the Mexican specimens being the darkest. Our figure is taken from a Guatemalan example.

15. **Hypena andria,** sp. n. (Tab. XXXV. fig. 4, ♂.)

Male. Primaries pale purplish-brown, with a wide dark brown band across the middle, a waved dark brown line crossing from the costal to the inner margin close to the base, a white dot in the middle of the cell, and a submarginal row of very small brown dots extending from the costal margin close to the apex to the anal angle, the fringe dark brown; secondaries dusky brown; the underside of both wings pale brown, the secondaries crossed beyond the middle by two dark brown lines: head, thorax, abdomen, antennæ, palpi, and legs dark brown. The female darker than the male, and without the white spot in the cell of the primaries. Expanse, ♂ ♀, $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo (*Champion*).

In Guatemala this species appears to be pretty common. The numerous specimens obtained show a considerable amount of variation in colour and in the distinctness of the markings; in some of the males the white spot on the primaries is almost obsolete.

16. **Hypena levana,** sp. n. (Tab. XXXV. fig. 5.)

Primaries dark brown, with a dark reddish-brown marking extending over the wing from the middle of the costal margin (somewhat in the shape of a large **V**, but very much dentated on the outer side), a pale greyish-brown line crossing near the base from the costal margin to the middle of the inner margin, a very indistinct submarginal line extending from near the apex to the anal angle, and a slightly lighter brown marking close to the apex, the fringe dark reddish-brown; secondaries uniformly dusky brown, with the marginal line and the fringe paler; the underside of both wings pale brown, slightly irrorated with a few greyish scales: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse $1\frac{2}{3}$ inch.

Hab. COSTA RICA, Rio Sucio (*Rogers*).

One example. A species quite unlike any other of the genus known to us.

17. **Hypena exceptalis.** (Tab. XXXV. fig. 6.)

Hypena exceptalis, Walk. Cat. xvi. p. 46 (♀)[1].

Peliala tenebrosa, Walk. Cat. xxxiii. p. 1005 (♂)[2].

Hab. MEXICO, Coatepec (*Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3000 feet, Pantaleon 1700 feet, Zapote (*Champion*); COSTA RICA, Volcan de Irazu (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA [1 2]; AMAZONS, Ega [1].

A common species throughout our region; some specimens are darker in colour than

others. Our figure is from a Guatemalan example. Walker described the sexes as distinct species, and founded a genus upon the male; but I cannot discover any character by which to separate it from *Hypena*.

18. **Hypena andrapana,** sp. n. (Tab. XXXV. fig. 7.)

Primaries dark brown, crossed by several indistinct darker brown lines, a submarginal row of dark brown spots extending from the apex to the anal angle, a long blackish-brown streak at the end of the cell; secondaries dusky brown; the fringe of both wings dark brown; the underside brown, the secondaries crossed about the middle by a narrow waved line: head, thorax, abdomen, palpi, and legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

The Costa Rican specimen is in very poor condition, but I have very little doubt that it belongs to this species.

19. **Hypena lebonia,** sp. n. (Tab. XXXV. fig. 8.)

Primaries reddish-brown, crossed from the costal to the inner margin by several indistinct narrow waved lines, a rather wide dark brown band crossing the wing from the middle of the inner margin to the apex, a small white dot (much larger in some specimens than in others) on the inner side of the band below the middle, and a white streak on the inner margin, the fringe dark brown; secondaries dusky brown, with the fringe and marginal line paler; the underside pale brown, the costal margins of both wings irrorated with dark brown scales: head, thorax, and palpi reddish-brown, the abdomen and legs dusky brown, the antennæ brown. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Varies considerably in colour and in the size of the white dot on the primaries, also in the distinctness of the dark brown band, this latter in Dr. Staudinger's specimen being almost obsolete.

20. **Hypena pacatalis.**

Hypena pacatalis, Walk. Cat. xvi. p. 80 (♀)[1].

Hab. MEXICO, Orizaba (*H. H. Smith & F. D. G.*).—ANTILLES, San Domingo[1].

A specimen in very poor condition, captured at Orizaba in December 1887, apparently belongs to this species.

21. **Hypena ammonia,** sp. n. (Tab. XXXV. fig. 9.)

Primaries reddish-brown, with a >-shaped mark close to the base, a dark reddish-brown line edged on the outer side with greyish-white scales crossing beyond the middle from the costal margin near the apex to the middle of the inner margin, and a submarginal row of dark spots extending from the apex to the inner margin close to the anal angle, the fringe dark brown; secondaries dusky brown, with the fringe paler; the underside of both wings pale greyish-brown: head, thorax, antennæ, and palpi reddish-brown, the abdomen and legs dusky brown. Expanse $1\frac{3}{10}$ inch.

Hab. MEXICO, Atoyac in Vera Cruz (*H. H. Smith*), Orizaba (*F. D. G.*).

One example from Orizaba, captured in December 1887, and several from Atoyac, captured in April 1888; the former is duller than the others in colour.

22. **Hypena obditalis.**

Hypena obditalis, Walk. Cat. xvi. p. 48 (♂)[1].

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo, Las Mercedes 3000 feet (*Champion*); HONDURAS (*Dyson*[1]); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Guatemalan specimens agree with Walker's type in the National Collection; those from Mexico are paler in colour.

23. **Hypena ancara,** sp. n. (Tab. XXXV. fig. 10.)

Primaries greyish-brown, darker brown along the outer margin, with a yellowish-brown zigzag line crossing the wing close to the base from the costal to the inner margin, beyond which in the middle of the cell is a minute black dot, and beyond the middle of the wing a rather wider yellowish-brown line, edged on the outer side with pale greyish-brown, extending from the costal margin near the apex to the middle of the inner margin; secondaries uniformly greyish-brown; the fringe of both wings brown, that of the primaries the darkest; the underside of both wings pale greyish-brown, almost slate-coloured: head, antennæ, palpi, thorax, and abdomen greyish-brown, the legs brown. Expanse 1 inch.

Hab. GUATEMALA, Tamahu, San Gerónimo, and Santa Barbara in Vera Paz (*Champion*).

Allied to *H. obditalis*, Walk., from which it may be at once distinguished by the straight oblique line on the primaries. The specimen from Tamahu is figured.

24. **Hypena lipara,** sp. n. (Tab. XXXV. fig. 11, ♂.)

Male. Primaries and secondaries uniformly blackish-brown, the primaries crossed beyond the middle from the costal to the inner margin by a zigzag reddish-brown line; the underside of both wings greyish-brown: head, thorax, abdomen, antennæ, palpi, and legs blackish-brown. Expanse $1\frac{1}{10}$ inch.

Hab. MEXICO, Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*).

One specimen of this dull-coloured species was captured by Mr. Smith in September 1888.

25. **Hypena hemonalis.**

Hypena hemonalis, Walk. Cat. xvi. p. 228 (♀)[1].

Hypena sclerialis, Feld. & Rogenh. Reise der Novara, Lep. t. 120. fig. 32, Erkl. der Taf. 120. no. 32 (♂)[2].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*). —AMAZONS[2]; BRAZIL[1].

Our Guatemalan specimens differ from Walker's type in having the band crossing the primaries considerably wider, but those from Chiriqui agree well with it. The insect

figured by Felder and Rogenhofer is apparently darker in colour than the Central-American examples.

26. **Hypena androna,** sp. n. (Tab. XXXV. fig. 12.)

Primaries greyish-brown, with a minute black dot in the cell, a brown line edged on the outer side with greyish-white crossing beyond the middle from the costal to the inner margin, and a submarginal fine greyish-white zigzag line extending from the apex to the anal angle, the marginal line black, the fringe dark brown; secondaries blackish-brown, the fringe paler; the underside uniformly pale greyish-brown: head, thorax, abdomen, antennæ, palpi, and legs greyish-brown. Expanse $1\frac{1}{10}$ inch.

Hab. MEXICO, Rio Papagaio in Guerrero 1200 feet (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*), Guatemala city (*Rodriguez*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui, 2000 to 3000 feet (*Champion*).

This species varies considerably in colour and in the distinctness of the markings. Mexican examples are greyer than those from the more southern localities. Our figure is taken from a specimen captured by Mr. Champion on the Volcan de Chiriqui.

27. **Hypena ——?**

Hab. COSTA RICA (*Van Patten*).

A single specimen of a very distinct-looking species, but too imperfect for description.

28. **Hypena abscisalis.**

Hypena abscisalis, Walk. Cat. xvi. p. 49[1].

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro 1600 feet (*Champion*); PANAMA, Chiriqui (*Ribbe*).—AMAZONS, Pará [1].

We are now able to trace this species northwards to Southern Mexico, where a few specimens were captured by Mr. Smith in January and February 1888.

29. **Hypena anicina,** sp. n. (Tab. XXXV. fig. 13.)

Primaries purplish-brown, crossed from the costal to the inner margin by two brown bands (the first narrow and close to the base, the second considerably wider and in the middle of the wing), a submarginal row of small brown spots extending from the apex to the inner margin close to the anal angle; secondaries uniformly dusky brown; the underside of both wings greyish-brown, the primaries with two small white spots close to the apex, the secondaries crossed about the middle from the costal to the inner margin by a faint brown line: head, antennæ, palpi, thorax, abdomen, and legs brown. Expanse $1\frac{3}{10}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Two specimens of this species were captured by Mr. Champion. It is allied to *H. abscisalis,* Walk.

30. **Hypena leuctra,** sp. n. (Tab. XXXV. fig. 14.)

Primaries yellowish-brown, crossed from the costal to the inner margin by two greyish-brown bands (the first beyond the cell, the second submarginal), with a yellowish-brown line crossing the wing close to the base and a second line at the end of the cell, the marginal line black edged with greyish-brown on the inner side, a minute black dot in the middle of the cell; secondaries dusky brown, palest at the base, the fringe dark brown; the underside of both wings uniformly dusky brown: head, antennæ, palpi, thorax, abdomen, and legs dark brown. Expanse $1\frac{3}{10}$ inch.

Hab. MEXICO, Atoyac in Vera Cruz (*Schumann*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Coban in Vera Paz (*Conradt*).

The Mexican examples captured by Mr. Herbert Smith during the months of February and March, 1888, show a considerable amount of variation, some of them being very much darker than others. Our figure is taken from a Teapa specimen.

31. **Hypena loxo,** sp. n. (Tab. XXXV. fig. 15.)

Primaries dark brown, crossed about the middle by a rather wide pale brown band, a marginal and a submarginal row of minute white dots extending across the wing from the costal to the inner margin; secondaries dusky brown, slightly paler at the base; the fringe of both wings brown: head, palpi, antennæ, thorax, abdomen, and legs brown. Expanse $1\frac{1}{10}$ inch.

Hab. MEXICO, Jalapa (*coll. Schaus*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

One specimen from each locality. The species is allied to the preceding, *H. leuctra*. The Costa Rican example is figured.

32. **Hypena anda,** sp. n. (Tab. XXXV. fig. 16.)

Primaries pale brown, crossed about the middle by a waved dark brown line, beyond which is a rather wide greyish band, a greyish spot at the apex, the wing also irrorated with dark brown scales; secondaries pale brown, the fringe dark brown; the underside of both wings pale greyish-brown, thickly irrorated with dark brown scales: head, palpi, antennæ, thorax, abdomen, and legs greyish-brown. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Cuernavaca in Morelos (*H. H. Smith*).

This species varies very considerably, both in markings and colour.

33. **Hypena lollia,** sp. n. (Tab. XXXV. fig. 17.)

Primaries dark brown, crossed beyond the middle from the costal to the inner margin by a rather wide pale brown band edged on both sides with a dark reddish-brown waved line, a dark brown line extending across the wing close to the base, the fringe dark brown; secondaries uniformly dusky brown, slightly paler along the costal margin; the underside of both wings pale brown, the primaries with a small white spot close to the apex, the secondaries irrorated with greyish scales: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse $1\frac{3}{10}$ inch.

Hab. MEXICO, Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet, Zapote, Dueñas, Tamahu in Vera Paz (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

This species varies very much in colour, from dark brown to quite pale brown, also in the distinctness of the markings. Some of the examples from the Volcan de Chiriqui show a slight bluish-grey edging to the dark brown lines crossing the primaries. Our figure is taken from a specimen captured by Mr. Champion at Cerro Zunil.

34. **Hypena citata.**

Hypena citata, Grote, Trans. Am. Ent. Soc. iv. pp. 101, 309 (♀) [1].
Hypena (Euhypena) citata, Grote, List of North-American Moths, p. 44 (1882) [2].
Hypena trituberalis, Zell. Verh. zool.-bot. Ges. Wien, xxii. p. 469, t. 2. fig. 6 (♀) [3].

Hab. North America [2], Alabama [1], Texas [3].—Mexico, Dos Arroyos 1000 feet, Venta de Zopilote 2800 feet, Tierra Colorada 2000 feet, all in Guerrero, Teapa in Tabasco (*H. H. Smith*), Jalapa (*Höge*), Orizaba (*H. H. Smith & F. D. G.*); Guatemala, San Gerónimo (*Champion*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Brazil, San Paulo.

This insect is very widely distributed, both in Central and South America; in Mexico it appears to be very common. Our specimens are almost identical with those in the Grote collection now in the National Collection: they vary slightly in colour, some examples being darker than others.

35. **Hypena locusta,** sp. n. (Tab. XXXV. fig. 18.)

Primaries dark brown, crossed by several very indistinct narrow whitish lines, the costal margin near the apex streaked with white, the fringe dark brown; secondaries blackish-brown, with a few whitish scales close to the anal angle, the fringe whitish; the underside greyish-brown, the secondaries crossed from the costal to the inner margin by two dark brown lines: head, palpi, antennæ, thorax, abdomen, and legs dark brown. Expanse $1\frac{1}{10}$ inch.

Hab. Mexico, Coatepec (*coll. Schaus*).

One specimen.

36. **Hypena muscosa,** sp. n. (Tab. XXXV. fig. 19.)

Primaries and secondaries almost uniform pale greyish-brown, a spot at the end of the cell and a waved submarginal line darker brown; the secondaries crossed about the middle by a very indistinct waved brown line; the underside greyish-brown, with the lines on the secondaries very like those on the upperside, but slightly more distinct: head, palpi, thorax, and antennæ pale greyish-brown; (abdomen wanting); legs greyish-white. Expanse $1\frac{1}{4}$ inch.

Hab. Mexico, Las Vigas (*coll. Schaus*).

One specimen.

37. **Hypena (?) angitia,** sp. n. (Tab. XXXV. fig. 20.)

Primaries pale brown, with a large dark brown patch at the apex, a dark brown spot at the end of the cell and a smaller one below it nearer the inner margin, and a marginal row of very minute black dots edged with white on the inner side, the fringe dark brown; secondaries dusky brown; the underside of both wings pale brown, the primaries with two small white dots close to the apex: head, thorax, antennæ, palpi, and abdomen uniform pale brown, the legs dusky brown. Expanse $1\frac{3}{10}$ inch.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

A very distinct species, not altogether agreeing in form with *Hypena*.

38. **Hypena (?) jactatalis?** (Tab. XXXV. fig. 21.)

Hypena jactatalis, Walk. Cat. xvi. p. 49 (♂) [1].

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Frontino in Antioquia; VENEZUELA [1].

Walker's type in the National Collection is in very poor condition; our examples from Chiriqui, are, I believe, females of the same species. In these latter the primaries are similar to those of *H. jactatalis*, Walk., but the secondaries are greyish-white at the base (which is not the case in Walker's type); on the underside the specimens are almost identical. *H. jactatalis* hardly belongs to *Hypena*, but till more examples are obtained it is advisable to retain it in that genus.

39. **Hypena inclyta.**

Hypena inclyta, H. Edwards, Papilio, iv. p. 80 [1].

Hab. MEXICO, State of Vera Cruz (*Schaus* [1]).

Unknown to us.

METINA, gen. nov.

Allied to *Hypena*. Primaries with the costal margin quite straight, the apex pointed, the outer margin slightly curved outwards, then receding inwards to the anal angle, which is rounded, the inner margin quite straight; secondaries rather long and broad, rounded at the apex and at the anal angle. Head small, thickly clothed with hairs between the eyes; the palpi large, erect, the third joint pointed and tufted, with hairs on the upperside. Thorax fairly broad, and thickly clothed with hairs. Abdomen slender, with two small erect tufts of hair on the two basal segments. Legs slender and moderately long, the anterior and posterior tibiæ clothed with rather long hairs. The antennæ more than half the length of the wing, very slender, and sparsely clothed with fine hairs at the base.

Type *Bleptina hirtipalpis*, Walker.

1. **Metina hirtipalpis.**

Bleptina hirtipalpis, Walk. Cat. xvi. p. 242 (♂) [1].

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Cahabon (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—VENEZUELA [1].

This species varies considerably in the depth of colour of the markings. In our region it is fairly common.

SOTIGENA, gen. nov.

Primaries with the costal margin nearly straight to the apex, which is rounded, the outer margin slightly angular, the inner margin straight, and with a very distinct fringed lobe close to the anal angle (similar to that present in many of the species of Notodontidæ), the discoidal cell long (almost two-thirds the

length of the wing) and rather broad at the end; secondaries large, much rounded from the apex to the anal angle, the costal margin almost straight, the fringe very long. Head small; the thorax and abdomen slender, the latter not extending beyond the wings. Palpi large, projecting straight out in front of the head, the third joint very minute. Antennæ about half the length of the wing, slightly pectinated. Legs long and very slender, without any tufts of hair.

Type *Sotigena notodontoides*.

This genus in some respects is allied to *Hypena*; but it may be at once distinguished from all others of the family known to us by the fringed lobe on the inner margin of the primaries. The two species referred to it are both from Mexico.

1. **Sotigena notodontoides**, sp. n. (Tab. XXXV. fig. 22.)

Primaries pale greyish-brown, thickly irrorated with minute darker brown scales, a small raised tuft of white scales in the middle of the cell, a waved green line edged with brown on the outer side crossing the wing at the end of the cell from the costal to the inner margin, beyond which, nearer the apex, is a submarginal row of five indistinct black dots, the marginal line black with a few pale brown points on the inner edge, the fringe dark brown; secondaries creamy-white, slightly shaded with brown about the middle of the outer margin, the marginal line black, the fringe brownish-white; the underside of the primaries dusky brown, darkest at the apex and along the costal margin, that of the secondaries the same colour as above, with a central brown line almost broken into spots crossing the wing from the costal to the inner margin: head, thorax, palpi, and antennæ dark brown; the abdomen yellowish-brown, with a narrow dark brown line extending from the base to the anus; the legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. Mexico, Coatepec (*Brooks*), Las Vigas (*coll. Schaus*).

Mr. Schaus informs us that he captured several specimens of this insect during the month of May. Our example from Coatepec has the green line crossing the primaries more distinct than in the others we have seen from Las Vigas.

2. **Sotigena dulcis**, sp. n. (Tab. XXXV. fig. 23.)

Primaries pale greyish-brown, clouded with darker brown along the costal margin and at the end of the cell, and slightly irrorated with dark brown scales, with a number of minute brown streaks along the costal margin, and a submarginal row of small black spots crossing the wing from the costal margin near the apex to the inner margin, the fringe yellowish-brown; secondaries pale greyish-brown, palest at the base and along the costal margin; the underside pale greyish-brown, the secondaries crossed in the middle from the costal to the inner margin by an indistinct pale line: head, antennæ, palpi, thorax, abdomen, and legs pale greyish-brown, the basal segments of the abdomen with a tuft of hairs. Expanse $1\frac{1}{4}$ inch.

Hab. Mexico, Las Vigas (*coll. Schaus*).

One specimen of this distinct species was captured by Mr. Schaus, who has kindly placed it at our disposal to describe and figure.

BOANA.

Boana, Walker, Trans. Ent. Soc. Lond. 3rd ser. i. p. 110 (1862); Walker, Cat. xxxiv. p. 1145.

Walker founded this genus upon a female example of a Brazilian insect; but the species had been figured long before by Herrich-Schäffer under the name of *Hypena cataleuca*. *Boana* is very distinct from *Hypena*, and I have, therefore, retained Walker's generic name. The primaries in the male are thickly clothed with long

whitish hairs on the underside of the costal margin, and have also a round patch of black hairs near the base on the inner margin; the antennæ in the male are slightly tufted in the middle.

1. Boana cataleuca.

Hypena cataleuca, Herr.-Schäff. Samml. aussereur. Schmett. p. 69, fig. 452 [1].

Boana semialba, Walk. Trans. Ent. Soc. Lond. 1862, p. 110 (♀) [2], & Cat. xxxiv. p. 1145 [3].

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*).—Amazons [1]; Brazil [2 3].

Examples of this species were captured by Mr. Smith in Mexico during the months of February, March, and April, 1888. In the males the whitish lines are very indistinct, the primaries being also considerably narrower than those of the females. Walker's type of *B. semialba* is now in the Oxford Museum.

AGANZAGARA.

Aganzagara, Walker, Cat. xxxiv. p. 1146 (1865).

This genus was founded by Walker upon an insect from Honduras in the National Collection. It is the only example known to us.

1. Aganzagara disparatalis.

Aganzagara disparatalis, Walk. Cat. xxxiv. p. 1146 [1].

Hab. Honduras, Limas [1].

OGOAS, gen. nov.

Primaries with the costal margin nearly straight, but slightly curved close to the base, the outer margin curved to the anal angle, the wing narrow at the base and broad from the apex to the inner margin; secondaries large, the costal margin straight to the apex, then very much rounded to the anal angle, the inner margin straight, the costal margin clothed with long silky hairs from the base almost to the apex. Head small, the eyes prominent; the palpi slender, the third joint very minute; the thorax and abdomen slender, the latter not extending beyond the wings; legs slender, bare; antennæ simple, about half the length of the wing.

Type *Ogoas albipuncta.*

1. Ogoas albipuncta, sp. n. (Tab. XXXV. fig. 24, ♂.)

Male. Primaries dark brown, crossed beyond the middle from the costal to the inner margin by a narrow waved white line, on the outer side of which and at the apex the wing is thickly irrorated with minute white scales, the marginal line black; secondaries dark brown, the costal margin from the base to the apex broadly silky-white and clothed with a thick tuft of pale yellowish-brown hairs, a pale greyish line crossing the wing from about the middle of the inner margin to the white costal margin, the outer portion of the wing thickly irrorated with very minute white scales; the fringe of both wings dark brown; the underside of both wings dark greyish-brown, the inner margin of the primaries broadly bordered with silky-white, the secondaries crossed below the middle by an indistinct brown line: head, thorax, palpi, antennæ, abdomen, and legs dark brown. Expanse $1\frac{1}{4}$ inch.

Hab. Guatemala, Sabo in Vera Paz (*Champion*).

Two male specimens of this very distinct species were captured by Mr. Champion on

the densely-forested Atlantic slope of Guatemala. It is in all respects very different from any other member of the family known to us, but comes nearest to *Boana cataleuca* (Herr.-Schäff.).

TOMYRIS, gen. nov.

Allied to *Ogoas*, from which it differs as follows:—The primaries are narrower and slightly longer, and more pointed at the apex, and on the inner margin on the underside they have a tuft of long hairs; the secondaries are shorter and more rounded; the antennæ are considerably longer, being two-thirds the length of the wing; the palpi are much larger and longer, projecting out straight from the head. The thorax and the abdomen are slender, the abdomen extending beyond the wings; the legs are long and slender, and not clothed with hairs.

Type *Tomyris nigropuncta*.

The tuft of long hairs on the inner margin of the primaries beneath distinguishes the genus from *Ogoas*, which has the tuft of hairs on the costal margin of the secondaries above.

1. **Tomyris nigropuncta**, sp. n. (Tab. XXXV. fig. 25, ♂.)

Male. Primaries fawn-colour, shading to dark brown along the costal margin, apex, and outer margin, a very faint line crossing the wing beyond the cell, and a submarginal row of black spots extending from near the apex to the inner margin close to the anal angle, the last two spots in the submarginal row considerably larger than any of the others; secondaries blackish-brown, the costal margin broadly bordered with pale silky-brown, a small black spot edged with white below the middle of the wing and nearest the anal angle, the marginal line black; the fringe of both wings dark brown; the underside of both wings uniform pale blackish-brown, the inner margin of the primaries almost to the anal angle silky-white: head, antennæ, and thorax pale brown, the palpi black; the abdomen above blackish-brown, beneath and the legs pale brown. Expanse $1\frac{3}{10}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Caldera in Chiriqui 1200 feet (*Champion*).

We have only received two specimens of this insect, both males; the one from Caldera is considerably paler in colour. The specimen from the Volcan de Atitlan is figured.

HORMISA.

Hormisa, Walker, Cat. xvi. p. 74 (1858), & xxxiv. p. 1144.

Walker founded this genus upon an insect from North America, and afterwards added to it a second species from the same country; two others are here described, both from Chiriqui. Grote does not mention either of Walker's species in his Check-list.

1. **Hormisa absorptalis.**

Hormisa absorptalis, Walk. Cat. xvi. p. 74 (♂)[1].

Hab. NORTH AMERICA, United States[1].—MEXICO, Valladolid in Yucatan (*Gaumer*); PANAMA, Taboga Island (*Mathew, in mus. D.*).

Of this insect we have received two specimens, these being almost identical with Walker's type in the National Collection.

2. **Hormisa andaca,** sp. n. (Tab. XXXV. fig. 26.)

Primaries and secondaries creamy-white, the primaries crossed beyond the middle by two very indistinct bands of pale brownish-yellow spots and with two black dots in the cell; the underside of both wings uniform creamy-white, with a black spot at the end of the cell: head, thorax, and palpi creamy-white, the abdomen slightly darker in colour, the legs pale brown. Expanse 2 inches.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

One specimen only of this very distinct species has been received; I believe it is a female.

3. **Hormisa larymna,** sp. n. (Tab. XXXV. fig. 27.)

Primaries and secondaries creamy-white; the primaries thickly irrorated with minute brown scales and crossed from the costal to the inner margin by two faint brown lines, a row of very small black dots on the outer margin; the secondaries slightly clouded with pale brown on the outer margin near the apex; the underside pale creamy-white shaded with brown, a pale brown line crossing both wings from the costal to the inner margin: head, palpi, antennæ, thorax, abdomen, and legs creamy-white. Expanse 1 inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

The two specimens of this insect in Dr. Staudinger's collection are all we have seen; one of them is much paler in colour than the other.

HYPENODES.

Hypenodes, Doubleday, Syn. List Brit. Lep. p. 14 (1850); Guenée, Sp. gén. des Lép. viii. p. 41; Walker, Cat. xvi. p. 69.

Cledeobia, Stephens, Ill. Brit. Ent., Haust. iv. p. 20 (1834); Herrich-Schäffer, Syst. Bearb. Schmett. Europ. ii. p. 442 (1845).

The species included in this genus are all of small size.

1. **Hypenodes macula,** sp. n. (Tab. XXXVI. fig. 1.)

Primaries pale greyish-brown, darker along the costal margin, crossed from the apex to the inner margin by a rather pale yellowish band, and with a waved darker line along the outer margin, the fringe greyish-brown; secondaries creamy-white, with the outer margin and fringe slightly yellowish: head, thorax, abdomen, palpi, antennæ, and legs pale yellowish-brown. Expanse $\frac{1}{2}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Two specimens of this little species are contained in Dr. Staudinger's collection; one of them is considerably darker than the other.

2. **Hypenodes (?) lysizona,** sp. n. (Tab. XXXVI. fig. 2.)

Primaries brownish-white, crossed from the apex to the inner margin by a straight dark brown line, which is edged on the outer side with a narrow white line, and on the inner side with a row of very minute black dots, two small black dots at the end of the cell, and a dark brown mark about the middle of the inner margin which extends partly across the wing; secondaries considerably paler in colour than the primaries, and with the dark and light lines more waved: head, thorax, and abdomen pale brownish-white. Expanse $\frac{1}{2}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen, apparently a female.

3. **Hypenodes (?) apis,** sp. n. (Tab. XXXVI. fig. 3.)

Primaries and secondaries uniform pale grey, the primaries with three dark brown spots on the costal margin, and under the third of these a narrow brownish line which extends to the inner margin, the secondaries crossed below the middle by a faint waved brown line: head, thorax, abdomen, antennæ, palpi, and legs pale grey. Expanse ¾ inch.

Hab. GUATEMALA, Balheu in Vera Paz (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Two specimens. The Guatemalan example is darker in colour and more heavily marked than the one from Chiriqui; our figure is taken from the latter.

LAMETIA.

Lametia, Walker, Cat. xvi. p. 77 (1858).

This genus was founded upon a female specimen from Ega, Walker subsequently again describing the same species from a Colombian example under a different name. In his description of *L. retusa* he states that the Colombian specimen is a female; but this is a mistake, the type, which is now in my own collection, being without doubt a male. The male is very easily distinguished from the female (which has been well figured by Herr.-Schäffer) by having two tufts of black hairs on the primaries—one on the costal margin close to the apex (which is considerably more pointed than in the female), the other below it and nearer the middle of the wing; it also has the palpi considerably larger. On the underside the costal margin of the primaries is thickly clothed with short hairs, these being entirely absent in the female.

1. **Lametia ignitalis.** (Tab. XXXV. fig. 28, ♂.)

Lametia ignitalis, Walk. Cat. xvi. p. 77 (♀)[1].

Tamyra penicillana, Herr.-Schäff. Samml. aussereur. Schmett. p. 83, t. 79. f. 453 (♀).

Lametia retusa, Walk. Journ. Linn. Soc., Zool. ix. p. 193[2] (♂).

Hab. MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, San Juan in Vera Paz (*Champion*); PANAMA, Taboga Island (*J. J. Walker*).—COLOMBIA, Bogota[2]; AMAZONS, Ega[1]; BRAZIL, Rio Janeiro.

Mr. H. H. Smith captured one specimen at Atoyac, a fine male, in April 1888. We figure this, to show the tufts of hair on the primaries.

2. **Lametia anemolia,** sp. n. (Tab. XXXVI. fig. 5, ♀.)

Female. Primaries and secondaries brownish-black; the primaries crossed by two darker waved lines (the first near the base, the second beyond the cell), and with a yellow spot in the middle and two white dots at the end of the cell, the basal half thickly irrorated with minute white scales (which give the wing a greyish tinge), the costal margin close to the apex streaked with white; both wings greyish along the outer margin, and each crossed from the apex to the inner margin by a submarginal row of small white dots; the underside pale greyish-brown, both wings crossed beyond the middle by a narrow dark brown line, the submarginal spots as above but much more distinct: head, palpi, antennæ, thorax, and upperside of the abdomen dark greyish-brown, the latter beneath and the legs pale brown. Expanse 1½ inch.

Hab. MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).

One specimen of this interesting species was captured by Mr. Herbert Smith in April 1888. On the underside *L. anemolia* closely resembles *Thermesia gemmatalis*, Guen.

MYRTALE, gen. nov.

Male. Head and thorax rather broad; the abdomen slender, about one-third longer than the wings, and with a tuft of hair on each side close to the base. Eyes prominent. Proboscis very short and slender. Palpi large, erect; the first joint short and rather stout; the second joint long and slender, excepting at the end, where it is flattened, and thickly tufted with hair; the third joint very minute, hardly extending beyond the tuft of hair at the apex of the second joint. Antennæ short, simple. Legs slender, not thickly clothed with hairs, the spurs rather long. The primaries rather long and narrow, the costal margin slightly curved, the outer margin rounded; the secondaries broad, much rounded from the apex to the inner margin above the anal angle, the inner margin near the base thickly clothed with long hairs.

The female differs from the male in having the palpi simple and quite small, and the legs more sparsely clothed with hair; the tufts of hair at the base of the abdomen and on the inner margin of the secondaries are also entirely wanting.

Type *Myrtale imitata.*

This genus is not closely allied to any other known to me; the palpi are in some respects formed like those of *Lametia.*

1. **Myrtale imitata,** sp. n. (Tab. XXXVI. figg. 6, 6 *a*, ♂; 7, ♀.)

Male and *female.* Primaries brown, clouded from the base along the inner margin and across the middle of the wing to the costal margin with silvery-grey, and with a large silvery-grey spot on the outer margin just below the apex; secondaries blackish-brown, paler at the base and along the inner margin; the fringe of both wings pale brown: palpi and front of the head pale brownish-fawn-colour, the collar and base of tegulæ reddish-brown; the thorax and base of the abdomen pale greyish-white, the rest of the abdomen blackish-brown, the anal tuft fawn-colour; the legs reddish-brown. The female is altogether slightly darker in colour than the male. Expanse, ♂ $1\frac{3}{4}$, ♀ $1\frac{7}{10}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—SOUTH-EAST BRAZIL, Rio Janeiro.

This insect is an exact mimic of *Perigea palpalis*, Walk.; in fact, it is almost impossible to distinguish the females of these species from each other. There is a specimen of *M. imitata* from Espirito Santo in the National Collection, where it is placed in the Limacodidæ, near the genus *Scopelodes*, by Mr. Butler. It seems to me, however, to be better assigned to the Deltoidæ, but its exact position is at present very doubtful. The example from Rio Janeiro in my own collection is considerably paler in colour than those from Chiriqui.

Subfam. *HERMINIINÆ.*

RIVULA.

Rivula, Guenée, Sp. gén. des Lép. viii. p. 47 (1854).

Guenée founded this genus upon the common European *R. sericealis*, and also included in it a North-American species. Two are now added from our region.

1. **Rivula orobena,** sp. n. (Tab. XXXVI. fig. 8.)

Primaries pale fawn-colour, a spot at the end of the cell, a streak from this to the apex, and the outer margin shaded with darker brown; secondaries blackish-brown, paler at the base and along the costal margin; the fringe of both wings brown: head, palpi, thorax, and abdomen fawn-colour, the abdomen becoming brown near the anus; antennæ and legs brownish-fawn-colour. Expanse 1 inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

I have only seen three specimens of this insect; it is allied to *R. sericealis.*

2. **Rivula mandane,** sp. n. (Tab. XXXVI. fig. 4.)

Primaries very pale fawn-colour, with a large black spot on the middle of the costal margin, beyond which the wing is crossed from the costal to the middle of the inner margin by a pale brown line (this being paler on the outer side), a fainter second submarginal waved line extending from the apex to the anal angle, and between the two lines a row of very minute black elongated points, the outer margin of the wing dusky; secondaries uniform pale greyish-brown: head, thorax, and abdomen pale fawn-colour. Expanse 1 inch.

Hab. MEXICO, Coatepec (*coll. Schaus*).

The specimen kindly lent us by Mr. Schaus is the only one I have seen of this insect.

SASERNA, gen. nov.

Male. Head and thorax rather broad; the abdomen slender, with the anal tuft long but not extending beyond the wings. Eyes large. Palpi long, slender; the third joint rather flattened. Antennæ about half the length of the primaries, very slightly pectinated. Legs long and slender. The primaries broad, much rounded at the anal angle, the costal margin straight, the apex pointed; the secondaries broad, very much rounded from the apex to the anal angle, the inner margin straight.

Type *Hypena scissilinea*, Walker.

This genus is allied to *Menecina*, Walk.

1. **Saserna scissilinea.** (Tab. XXXVI. fig. 9, ♂.)

Hypena (?) *scissilinea,* Walk. Trans. Ent. Soc. Lond. 3rd ser. i. p. 261[1].

Hab. COSTA RICA, Cache (*Rogers*).—BRAZIL, Rio Janeiro [1].

This species was described by Walker from a specimen in Mr. Fry's collection. The type is now in the Oxford Museum; our Costa-Rican example agrees perfectly with it.

2. **Saserna lyde,** sp. n. (Tab. XXXVI. figg. 10, ♂; 11, ♀.)

Male. Primaries and secondaries dull brown, with a slight greyish tinge, a large oval black spot on the primaries at the end of the cell, from which a dark line extends to the costal margin, a faint, very narrow, yellowish-brown line crossing both wings beyond the middle, the primaries with a very indistinct submarginal waved band of dark blackish-brown spots extending from the apex to the anal angle; the underside paler in colour, with the markings all very indistinct: head, palpi, antennæ, thorax, abdomen, and legs dark brown.

Female. Primaries and secondaries pale brownish-fawn-colour, almost cream-colour on the costal margin near the apex, both wings irrorated with minute black dots, and crossed by a faint line, which is broken into spots: head and front of the thorax dark brown, the rest of the thorax, the tegulæ, abdomen, and legs pale fawn-colour. Expanse, ♂ $1\frac{1}{2}$, ♀ $1\frac{3}{4}$ inch.

Hab. MEXICO, Coatepec (*Brooks*), Paso de San Juan (*coll. Schaus*); GUATEMALA, San Isidro 1600 feet (*Champion*).

The female specimen in Mr. Schaus's collection is considerably paler in colour than our example from Coatepec, but I have not the slightest doubt that it belongs to the same species. We figure a male from San Isidro, and a female from Coatepec.

3. **Saserna (?) antias,** sp. n.* (Tab. XXXVI. fig. 12, ♀.)

Female. Primaries and secondaries reddish-fawn-colour, darker along the costal and outer margins, the costal margin of the primaries blackish-brown close to the base, both wings crossed from the costal to the inner margin by dark brown waved lines, a round spot in the middle and an ill-defined oval mark at the end of the cell; the underside yellowish-fawn-colour, with all the markings much more distinct, the greyish-brown bands being broken into spots: head and front of the thorax blackish-brown, the rest of the thorax, the abdomen, and legs reddish-fawn-colour, the anal tuft brighter in colour; the palpi black, thickly irrorated with grey, the tip yellow; the antennæ black to about the middle, yellowish-brown beyond. Expanse $1\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen in Dr. Staudinger's collection.

4. **Saserna (?) anyte,** sp. n. (Tab. XXXVI. fig. 13, ♀.)

Female. Primaries and secondaries pale brownish-cream-colour, thickly irrorated with darker brown scales; the primaries with a dark brown band extending from the base to the apex, but not touching the costal margin, and crossed from the costal to the inner margin by three very faint narrow waved brownish lines, a small dot in the middle of the cell; the secondaries with a rather large reddish-brown mark at the end of the cell; the underside very similar to the upperside, but without the dark brown band on the primaries: head, thorax, abdomen, legs, antennæ, and palpi the same colour as the wings. Expanse $1\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

I have two specimens of this species before me, both of them females.

5. **Saserna (?) arbuscula,** sp. n. (Tab. XXXVI. fig. 14, ♀.)

Female. Primaries and secondaries pale reddish-fawn-colour; the primaries thickly irrorated with dark brown, and with three short brown streaks, a minute dark brown spot at the base, a similarly coloured spot in the middle of the cell, a large oval reddish-brown spot edged with dark brown at the end of cell, a pale streak beyond the cell extending to the apex, and on the inner margin near the apex two or three fine white streaks; the secondaries similar in colour to the primaries, irrorated with dark brown at the anal angle and along the inner margin; the underside paler in colour than the upperside, and with all the markings very indistinct: head, thorax, abdomen, legs, antennæ, and palpi pale reddish-fawn-colour. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

* Of this and many other species of Deltoidæ we have only received female examples, and as it is almost impossible to determine their true generic affinity in the absence of the male sex, they can only be provisionally placed at present.

MENECINA.

Menecina, Walker, Cat. xv. p. 1585 (1858).
Blanona, Walker, Cat. xxxiii. p. 1105 (1865).

Walker founded this genus upon a male insect from Ega, and subsequently described it under another name from a specimen of the same sex from the same locality. *Hydrillodes* (?) *tunicula*, Feld. & Rogenh. (Reise der Nov., Lep. t. 120. fig. 30), from the Amazons, also belongs to it.

1. **Menecina bifacies.** (Tab. XXXVI. fig. 15, ♂.)

Menecina bifacies, Walk. Cat. xv. p. 1585 (♂)[1].
Blanona selenisoides, Walk. Cat. xxxiii. p. 1105 (♂)[2].

Hab. PANAMA, Chiriqui (*Ribbe*; *mus. Staudinger*).—AMAZONS, Ega[1 2].

Two specimens from Chiriqui, a male and female, are before me; the female is larger than the male and slightly duller in colour, and has the antennæ simple; both examples are almost identical with the types in the National Museum. The male, from which the figure is taken, is contained in our own collection.

ZORZINES, gen. nov.

Male. Head small; thorax rather broad; abdomen slender, not extending beyond the wings, the anal tuft small. Palpi long, porrect, rather broad, flattened on the inner side, and thickly clothed with long hairs on the outer side, the hairs giving it a plumose appearance. Antennæ about two-thirds the length of the primaries, very finely pectinated, tufted about the middle. Fore legs rather short, densely covered with long hairs; the middle and hind legs long, rather slender, and with long spurs. Primaries with the costal and inner margins straight, the apex pointed, the outer margin convex; secondaries with the costal margin straight, rounded from the apex to the anal angle, the inner margin almost straight.
Type *Zorzines plumula*.

The single species referred to this genus resembles *Saserna* in form; but the extraordinary shape of the male palpi at once distinguishes it.

1. **Zorzines plumula,** sp. n. (Tab. XXXVI. figg. 16, 16 *a*, ♂.)

Male. Primaries yellowish-brown, shaded with darker brown, with a faint pale yellowish waved line crossing the wing near the base from the costal to the inner margin, a small yellow dot at the end of the cell, a very indistinct waved dark brown line beyond the cell, a yellowish line extending from near the apex to about the middle of the inner margin (but curving inwardly towards the costal margin), two brown spots (the lower one more distinct than the one above) on the outer side of this line about the middle of the outer margin, and a marginal row of black dots extending from the apex to the anal angle, the fringe blackish-brown; secondaries dark brown, shading to yellowish-brown on the outer margin, with a rather wide yellowish line, edged on the inner side with a dark brown line, crossing the wing just below the middle, two small black dots at the end of the cell, and a marginal row of minute black spots; the underside pale brownish-yellow, both wings crossed beyond the middle from the costal to the inner margin by a dark brown line (this being broken into dots) and with black spots at the end of the cell: head and anal tuft yellowish-brown, the thorax and abdomen dusky brown; legs pale yellowish-brown, the front pair clothed with long pale yellowish-brown hairs; the palpi on the inner side dark brown, the

upperside and the base of the long hairs pale fawn-colour, the outer part of the hairs dark brown; the antennæ dark brown, yellowish at the tip. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

This very distinct and curious species is quite unlike any other Deltoid known to me. I have only seen one specimen.

SIMPLICIA.

Simplicia, Guenée, Sp. gén. des Lép. viii. p. 51 (1854); Walker, Cat. xvi. p. 95.

This genus was founded by Guenée upon a species from Eastern Europe; he also included in it two others, one from the Isle of Bourbon, the other from Abyssinia. I use the name *Simplicia* in the sense adopted by Felder, not having been able to see examples of any of Guenée's species.

1. **Simplicia tibialis.**

Simplicia tibialis, Feld. & Rogenh. Reise der Nov., Lep. t. 120. fig. 43, Erkl. der Taf. 120. no. 43 (♀)[1].

Hab. MEXICO, Coatepec (*Brooks*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro 1600 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui 4000 feet (*Champion*), Chiriqui (*Ribbe*).—BRAZIL[1].

Widely distributed and not uncommon in Central America.

2. **Simplicia aonia,** sp. n. (Tab. XXXVI. figg. 17, 17 *a*, ♂.)

Male. Primaries dark reddish-brown, crossed from the costal to the inner margin beyond the cell by two very indistinct darker brown lines, an orange-brown line also crossing near the base and a submarginal waved grey line from the costal to the inner margin, the colour of the wing itself very much duller on the outer side of the grey line (in some specimens the submarginal line is not nearly so much waved as in others, and some have the marginal part of the wing thickly irrorated with grey scales); secondaries dark blackish-brown, paler at the base and along the costal margin; the fringe of both wings dark brown, but that of the secondaries a little lighter in colour; the underside of the primaries pale brown, paler on the inner margin, a small grey line partly crossing the wing near the apex, that of the secondaries brown, thickly irrorated with grey scales from the base to beyond the middle, crossed by two darker brown lines, and with a dark brown dot at the end of the cell: head, thorax, and abdomen dark brown; the palpi brown, with the tuft of hair very much darker in colour than it is in the same sex of *S. tibialis*; the antennæ and legs dark brown. Expanse $2\frac{1}{10}$ inches.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*), Coban in Vera Paz (*Conradt*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Of this species we have only received male examples. These show considerable variation in the form of the submarginal grey line: in some specimens it is almost straight; in others waved, as in the Guatemalan example figured.

3. **Simplicia lycambes,** sp. n. (Tab. XXXVI. figg. 18, 18 *a*, ♂.)

Male. Primaries dull brown, nearly the same colour as in *S. tibialis*, crossed from the costal to the inner margin by very narrow indistinct waved brown lines, and with three minute black dots at the end of the

cell, the outer margin from near the apex to the anal angle with a greyish-white border which is waved on the inner edge (in *S. tibialis* it is straight); secondaries brown, but paler in colour than the primaries, the outer margin faintly streaked with grey; the fringe of both wings pale brown: head, thorax, abdomen, antennæ, palpi, and legs pale brown. The female very similar to the male, but considerably paler in colour and with the greyish marginal band of the primaries very indistinct. Expanse $1\frac{1}{2}$ inch.

Hab. MEXICO, Coatepec (*Schaus*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Closely allied to *S. tibialis*, Feld. & Rogenh., but altogether a smaller and paler insect. Four examples, three males and one female.

4. **Simplicia (?) lysandria,** sp. n. (Tab. XXXVI. figg. 19, 19 *a*, ♂.)

Male. Primaries pale purplish-brown, crossed from the costal to the inner margin by two broad dark brown bands, and also with two narrow waved dark brown lines; secondaries uniformly dull brown; the fringe of both wings pale brown; the underside pale brown, crossed by darker brown lines, that of the secondaries with a submarginal row of small yellowish-brown spots: head, thorax, and abdomen dark purplish-brown, the tegulæ brown; the palpi large, the third joint tufted with pale yellowish-brown hairs; the antennæ and legs brown. The female very similar to the male, but with small slender palpi. Expanse, ♂ ♀, $1\frac{2}{3}$ inch.

Hab. MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).

Nine examples, one male and eight females. The Mexican specimen in Mr. Schaus's collection is a female; it is paler in colour than any of the others before me.

5. **Simplicia (?) anysis,** sp. n. (Tab. XXXVI. figg. 20, 20 *a*, ♂.)

Male. Primaries and secondaries uniform dusky brown; the primaries crossed from the costal to the inner margin by four indistinct waved darker lines, the fourth of which is submarginal and flecked with white on the outer side, a marginal row of very minute black dots extending from the apex to the anal angle; the secondaries with the submarginal line very indistinct, and the white dots very minute; the fringe of both wings dark brown: head, palpi, antennæ, thorax, and legs dusky brown. The female very similar to the male, but with simple palpi. Expanse $1\frac{3}{10}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Mr. Herbert Smith captured a male of this species in March 1888, and from this our figure is taken. The male and female from Chiriqui in Dr. Staudinger's collection are rather paler in colour, but they agree in other respects with the Mexican specimen.

6. **Simplicia (?) mæra,** sp. n. (Tab. XXXVI. figg. 22, 22 *a*, ♂; 23, ♀.)

Male. Primaries and secondaries uniform dull brown; the primaries crossed from the costal to the inner margin by two darker brown lines—the first straight and close to the base, the second curved outwards beyond the middle—and with a submarginal row of minute white dots extending from the costal margin close to the apex to the anal angle, and a small white dot at the end of the cell; the secondaries with a very indistinct brown line crossing below the middle; both wings with a marginal row of very minute black dots, and with the fringe dark brown: head, palpi, thorax, abdomen, and legs dark blackish-brown. The female altogether darker in colour, and with the markings very indistinct. Expanse, ♂ ♀, $1\frac{1}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Dr. Staudinger's specimens are all we have seen of this species, of which we figure both sexes.

NARCÆA, gen. nov.

Male. Head and thorax rather broad; the abdomen slender and only extending very slightly beyond the wings. Eyes large. Tegulæ long, extending over the base of the abdomen, and clothed with long hairs. Palpi large, curved backwards over the head and thorax, thickly clothed with hairs. Antennæ simple, about half the length of the primaries. Fore legs stout, very thickly tufted with long hairs; the middle and hind legs long and slender, with the spurs elongate. The primaries are rather long and narrow at the base; the costal margin is nearly straight, but slightly curved near the apex, which is pointed; the outer margin is rounded to the anal angle; the inner margin is quite straight; the discoidal cell is small and rather short; on the underside of the wing on the costal margin close to the base is a tuft of hair. The secondaries are rather large; the costal margin is arched about the middle, then straight to the apex; the outer margin is rounded to the anal angle; the inner margin is straight and clothed with rather long hairs. The fringe of both wings is short.

In the female the primaries are a little shorter and broader; the first joint of the palpi is quite small, the second long and rather broad, the third long and very fine, and curved backwards over the head; the antennæ are rather finer; and the legs are shorter, the front pair not tufted with hair.

Type *Narcæa villosa.*

In this new genus the male has an exceedingly large tuft of hair on the fore legs, and long and hairy palpi; these characters separating it from the allied forms.

1. **Narcæa villosa,** sp. n. (Tab. XXXVI. figg. 21, 21 *a*, ♂; 24, ♀.)

Male. Primaries dull brown, slightly darker along the costal margin, with a rather large dark brown spot at the end of the cell, a waved pale brown line crossing the wing near the base, a straight pale brown line crossing beyond the middle from the costal to the inner margin, and a fine waved submarginal line extending from the costal margin close to the apex to the anal angle, the fringe brown; the secondaries similar in colour, but rather paler on the costal margin, with a pale brown line extending partly across the wing from the inner margin above the anal angle, and a pale waved submarginal line; both wings with a number of very small black points round the outer margin; the underside considerably paler than above, and almost without markings of any kind: head, thorax, and abdomen similar in colour to the primaries, the anal tuft pale brown; the palpi, the tufts of hair on the legs, and the legs themselves pale brown, with a slight yellowish tinge; the antennæ brown. The female very like the male, but with the lines crossing the wings much more waved; also with very differently formed palpi and fore legs. Expanse, ♂ $2\frac{1}{2}$, ♀ $2\frac{1}{4}$ inches.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

The only specimens we have seen of this species were kindly lent to us by Dr. Staudinger to describe and figure.

MAMERTHES, gen. nov.

Male. Head and thorax small; the abdomen slender, not extending beyond the wings. Eyes moderately large. Tegulæ short, not reaching the base of the abdomen. Palpi long, curved over the head and thorax; the first joint short and rather stout; the second joint long and slender, thickly clothed with short hairs; the third joint moderately long and forming a sort of sheath for a long tuft of fine hair. Antennæ about half the length of the primaries, rather thick, and slightly ciliated. Fore legs moderately stout and pilose; the middle and hind legs long and slender, the spurs on the hind pair elongate.

The primaries are long and narrow at the base; the costal margin is almost straight, but is slightly curved just before the apex; the inner margin is quite straight; the outer margin is considerably rounded from the apex to the anal angle. The secondaries are rather large; the costal margin is quite straight to the apex; the outer margin is very much rounded; the fringe is very short.

The female is very similar to the male, but the eyes and antennæ are smaller; the second and third joints of the palpi are long and very slender, the third joint tapering to a very fine point; and the fore legs are not pilose.

Type *Mamerthes nigrilinea*.

Allied to *Simplicia*, Guen., but with the palpi of the male shorter, and those of the female longer and more slender; other minor differences are mentioned above.

1. **Mamerthes nigrilinea**, sp. n. (Tab. XXXVII. figg. 1, 1 *a*, ♂; 2, ♀.)

Male. Primaries darkish brown, the costal margin yellowish-brown, a small black spot near the base of the cell, and a large one at the end of it, beyond which the wing is crossed from the costal to the inner margin by a very distinct waved black line, a number of yellowish-brown points between the black line and the outer margin, the outer margin edged with black, the fringe dark brown; secondaries dull brown, crossed from the costal to the inner margin by a very faint dark brown line; the underside of both wings pale brown, thickly irrorated with dark brown scales, and crossed beyond the middle by two waved brown lines, a large black spot at the end of the cell of the secondaries: head, thorax, abdomen, and legs dark brown, the anal tuft yellowish-brown; the antennæ pale brown; palpi with the first joint dark brown, the second joint bright yellowish-brown, the third joint and the large tufts of hair darker brown. The female considerably darker in colour than the male, with the antennæ finer, the palpi differently formed, and the legs without hairs. Expanse, ♂ ♀, $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 4000 feet (*Champion*).

A very distinct species. Six examples—one, a male, from Guatemala, the others, all females, from Chiriqui. We figure both sexes.

NICETAS, gen. nov.

Allied to *Mamerthes*, from which it differs in the slightly shorter primaries and more rounded secondaries. The palpi of the male are broader and a little longer, those of the female being almost similar; the antennæ are rather long and very deeply pectinated in the male (only slightly ciliated in *Mamerthes*); the abdomen is long and slender, and extends beyond the hind wings.

Type *Nicetas panamensis*.

1. **Nicetas panamensis**, sp. n. (Tab. XXXVII. figg. 3, 3 *a*, ♂; 4, ♀.)

Male. Primaries dark brown, with a greyish shade extending along the costal margin and crossing the wing beyond the middle to the inner margin, a spot about the middle of the cell and one at the end of it very dark brown, the wing crossed from the costal to the inner margin by four very fine waved yellowish-brown lines which are edged with black on the inner side, the marginal line black, the fringe dark brown; secondaries dull brown, paler at the base and along the costal margin, crossed from the costal margin to the anal angle by two faint brown waved lines, the marginal line black, the fringe brown; the underside uniform pale brown, both wings crossed by two dark brown waved lines, the fringe paler than on the upperside: head, thorax, and abdomen dark brown, the anal tuft yellowish-brown; the palpi large, rather broad, and clothed on the inner side with a large tuft of very pale yellowish-brown hairs; the antennæ about half the length of the primaries, brown, and rather deeply pectinated; the legs pale brown,

long, and slender, the spurs elongate. The female similar to the male, but with the antennæ simple, and the palpi long, the third joint of the latter very fine and pointed (as in the same sex of *Mamerthes nigrilinea*). Expanse, ♂ $1\frac{3}{4}$, ♀ $1\frac{7}{10}$ inch.

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

Our descriptions and figures are taken from Dr. Staudinger's specimens. We have only received female examples, one from each locality.

2. **Nicetas annon,** sp. n. (Tab. XXXVII. figg. 5, 5 *a*, ♂.)

Male. Primaries dull brown with a purplish tinge, crossed by two waved black lines—the first near the base, the second beyond the middle,—and with an elongate black mark in the cell; secondaries dull brown, paler at the base and along the costal margin, an indistinct brown line crossing the wing from about the middle of the costal margin to the inner margin just above the anal angle; the underside pale greyish-brown, both wings crossed beyond the middle from the costal to the inner margin by a dark brown line, and with a dark brown spot at the end of the cell, the spot on the primaries very faint: head, thorax, and abdomen dull brown; the antennæ brown, deeply pectinated; the palpi very long, curving backwards nearly to the middle of the abdomen, the outer side yellowish-brown, the inner side clothed with long yellowish-white hairs. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Jalapa (*coll. Schaus*).

Allied to *N. panamensis*, from the same sex of which it may be distinguished by its much duller colour, and by the markings on the primaries being fewer in number; there is only one line crossing the wings on the underside (instead of two, as in *N. panamensis*), and the antennæ and palpi are longer. One specimen only.

3. **Nicetas lycon,** sp. n. (Tab. XXXVII. figg. 6, 6 *a*, ♂.)

Male. Primaries pale greyish-brown, crossed from the costal to the inner margin by two very fine waved black lines, and with a large black spot at the end of the cell, from which a narrow curved brown line extends to the inner margin, a small round black spot near the base of the cell, and a submarginal row of very indistinct minute pale yellowish-brown points extending from the apex to the inner margin; secondaries dull brown, paler from the inner margin to about the middle, crossed from the costal margin to the anal angle by a waved black line, and with a submarginal band of pale yellowish-brown points as on the primaries; the marginal line of both wings black, the fringes brown; the underside uniform pale greyish-brown, both wings crossed beyond the middle by two dark brown waved lines, and each with a black spot at the end of the cell: head, thorax, and abdomen dark brown; the antennæ and legs brown; the palpi long and broad, and with a large tuft of creamy-white hairs on the inner side. The female very similar to the male, but very much smaller. Expanse, ♂ $1\frac{2}{3}$, ♀ $1\frac{1}{2}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

The only specimens we have seen of this insect were communicated to us by Dr. Staudinger. It is allied to the two preceding species, but is altogether smaller and very differently marked.

STRATHOCLES, gen. nov.

Male. Head small, the eyes prominent; the thorax rather broad; the tegulæ long; the abdomen slender, not extending beyond the wings. Antennæ not pectinated, about half the length of the primaries. Palpi large; the first joint small; the second and third joints long, thickly covered with fine hairs, the third

with a large tuft of hair on the inner side. The fore legs long, the tibiæ thickly clothed with hairs, the tarsi very slender; the hind legs long, extending slightly beyond the wings, and very thickly clothed with long silky hairs almost to the claws, the spurs very long. The primaries long and rather narrow; the costal margin slightly concave about the middle; the apex rounded; the outer margin nearly straight to beyond the middle, then much rounded to the anal angle; the inner margin quite straight. The secondaries rather large, and much rounded from the apex to the anal angle; the costal margin straight.

The female very similar to the male, but without any hair on the legs or palpi, excepting a very minute tuft just behind the tip of the latter (in other respects the palpi closely resemble those of the females of the genus *Nicetas*).

Type *Strathocles ribbei*.

1. **Strathocles ribbei,** sp. n. (Tab. XXXVII. figg. 7, 7 *a*, ♂; 8, ♀.)

Male. Primaries and secondaries almost uniformly dull brown; the primaries with a lighter brown mark at the end of the cell, beyond which are two rather large blackish-brown spots joined together by a slightly waved line, the marginal line black; the secondaries with a very faint submarginal pale brown line extending from the costal margin slightly above the apex to the inner margin above the anal angle; the underside pale greyish-brown, that of the primaries darker near the apex, both wings crossed beyond the middle by two very faint brown waved lines: head, thorax, and abdomen dark brown; the fore legs, antennæ, and palpi paler brown, the tuft of hairs on the palpi and the hairs on the hind legs pale yellowish-brown. The female slightly darker in colour than the male, and altogether a smaller insect; its other differences are pointed out in the generic description. Expanse, ♂ $2\frac{1}{10}$, ♀ $1\frac{1}{2}$ inch.

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*); Panama, Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

I have named this species after Herr Ribbe, who has discovered so many curious species of Deltoidæ. Our figure of the male is taken from Dr. Staudinger's specimen, that of the female from one in our own collection, both of which were captured by Herr Ribbe. The Mexican specimen is the darkest; it was captured in February 1888.

2. **Strathocles imitata,** sp. n. (Tab. XXXVII. fig. 9, ♀.)

Female. Primaries pinkish-brown, crossed about the middle from the costal to the inner margin by a wide dark brown band, this band being edged on both sides by a narrow black waved line, and becoming narrower and darker towards the inner margin, the outer margin shaded with dark brown, a large black spot at the end of the cell, and a very indistinct submarginal waved pale brown line extending from the costal margin near the apex to the inner margin above the anal angle, the marginal line yellowish-brown with black points, the fringe brown; secondaries dull brown, paler on the costal margin, partly crossed from the anal angle by two pale brown lines which do not extend more than halfway across the wing, and with a marginal line as on the primaries; the underside greyish-brown, that of the primaries with a yellowish tinge along the costal margin, both wings crossed by two pale yellowish-brown lines: head, palpi, thorax, and antennæ pale brown, the abdomen dusky brown, the legs brown. Expanse 2 inches.

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*), Taboga I. (*coll. Dognin*).

Somewhat resembles *Nicetas panamensis* in the pattern of the primaries, but entirely different in colour. The small tuft of hair on the third joint of the palpi at once shows that this insect is the female of a species allied to *Strathocles ribbei*.

HERMINIA.

Herminia, Latreille, Hist. Nat. Crust. et Ins. iii. p. 413 (1802); Walker, Cat. xvi. p. 96.

Most of the species included in this genus are European or North-American.

1. **Herminia (?) flacillalis.**

Herminia (?) *flacillalis*, Walk. Cat. xix. p. 856 [1].

Hab. HONDURAS (*Dyson* [1]).

Walker's type is a female; it is the only specimen we have seen.

MARIMATHA.

Marimatha, Walker, Cat. xxxiv. p. 1204 (1865).

Walker founded this genus upon the female of a species that he had previously described under the name of *Herminia rhodarialis* (the locality for which was not known), at the same time including in it two from Honduras, and others from West Africa and Southern India. It is very doubtful if they are all congeneric.

1. **Marimatha dinumeratalis.**

Marimatha dinumeratalis, Walk. Cat. xxxiv. p. 1204 (♂) [1].

Hab. HONDURAS (*Dyson* [1]).

This species is only known to us from Walker's type in the National collection.

2. **Marimatha (?) nigripalpis.**

Marimatha nigripalpis, Walk. Cat. xxxiv. p. 1204 (♂) [1].

Hab. HONDURAS (*Dyson* [1]).

The only specimen of this species we have seen is the type in the British Museum.

PYRGION, gen. nov.

Male. Head small; the eyes very prominent; the thorax broad; the tegulæ long. Abdomen long and slender, extending quite one third of its length beyond the wings. Antennæ about half the length of the primaries, slender, and very slightly pectinated. Palpi large, curved back over the head and thorax, densely clothed with hair, and thickly tufted on the third joint. Legs long and slender, the fore pair clothed with hairs. The primaries broad, excepting at the base; the costal margin straight from the apex almost to the base, where it is rather sharply curved; the apex pointed; the outer margin nearly straight, but slightly rounded at the anal angle; the inner margin straight; on the underside the costal margin from the base to beyond the middle is thickly tufted with hairs, which curve inwards, the tufts being much thicker in some specimens than in others. The secondaries large; the costal margin straight; outer margin much rounded from the apex to the anal angle; the inner margin short, and clothed with rather long hairs.

Type *Bleptina menippusalis*, Walk.

Walker described the female only of *B. menippusalis*; the male at once shows that it belongs to a very distinct genus from *Bleptina*.

1. **Pyrgion menippusalis.** (Tab. XXXVII. figg. 10, 10 *a*, ♂; 11, ♀.)

Bleptina menippusalis, Walk. Cat. xvi. p. 126 (♀) [1].

Male. Very similar to the female, but generally darker in colour, with slightly thicker antennæ, very differently formed palpi, and a much longer and more slender abdomen. Expanse, ♂, $1\frac{3}{4}$ inch.

Hab. MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, Capetillo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA [1].

Varies considerably in the colour of the primaries; in some specimens they are quite dark brown and in others pale yellowish-brown, but in no one locality does any form appear to be constant. In Mexico, Guatemala, and Costa Rica the species seems to be rare, as we have only received one or two specimens from each of the localities mentioned. In Panama it is common, especially the female. Our figure of the male is taken from a Mexican specimen; that of the female from a Chiriqui example. The latter is almost identical with Walker's type in the British Museum.

SCOPIFERA.

Scopifera, Herrich-Schäffer, Corr.-Blatt zool.-min. Ver. Regensb. 1870, sep. copy, pp. 38, 44; Felder & Rogenhofer, Reise der Novara, Lep., Erkl. der Taf. 120. no. 35.

1. **Scopifera longipalpis.**

Scopifera longipalpis, Feld. & Rogenh. Reise der Novara, Lep. t. 120. fig. 35, Erkl. der Taf. 120. no. 35 (♂ ♀) [1].

Hab. MEXICO, Coatepec (*Brooks*); GUATEMALA, Chacoj (*Champion*); COSTA RICA, Rio Sucio, Volca de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—VENEZUELA [1]; SOUTH-EAST BRAZIL [1].

Most of our specimens are darker in colour than Felder and Rogenhofer's figure (♂), but in other respects they agree well with it.

BLEPTINA.

Bleptina, Guenée, Sp. gén. des Lép. viii. p. 66 (1854); Walker, Cat. xvi. p. 119.

Guenée included seven species in *Bleptina*, all from North or South America or the Antilles; but he described four of them from the female sex only. Walker added a large number of species, nearly all of which will have to be assigned to other genera. The species placed first in the genus by Guenée, *B. confusalis*, is found throughout the greater part of our region; it has the palpi nearly alike in both sexes.

1. **Bleptina confusalis.**

Bleptina confusalis, Guen. Sp. gén. des Lép. viii. p. 67, Delt. et Pyral. t. 9. f. 2 (♀)[1]; Walk. Cat. xvi. pp. 124 (♀)[2], 241 (♂)[3].

Hab. Mexico, Orizaba (*F. D. G. & H. H. Smith*), Cuesta de Misantla, Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); Guatemala, San Gerónimo and Panima in Vera Paz (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—Venezuela [2 3]; Brazil [1].

Mr. Smith's specimens were captured during February, March, and April 1888. A variable and common species in Central America.

2. **Bleptina philetesalis.**

Bleptina philetesalis, Walk. Cat. xvi. p. 127 (♀)[1].

Hab. Honduras (*Dyson*[1]).

As the male is unknown, it is impossible to determine with any certainty if this species is rightly placed in the genus *Bleptina*. The specimen in the National Museum is the only one we have seen.

3. **Bleptina malia,** sp. n. (Tab. XXXVII. fig. 12, ♂.)

Male. Primaries and secondaries uniform dull brown; the primaries crossed from the costal to the inner margin by three very faint darker brown waved lines, the outer margin from the apex to the anal angle broadly bordered with greyish-brown, a very minute white dot at the end of the cell; the secondaries with a faint line of very minute dark brown dots crossing beyond the middle from the costal to the inner margin: head, thorax, abdomen, antennæ, and legs almost the same colour as the primaries. The female very similar in colour to the male. Expanse, ♂ ♀, 1¼ inch.

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

Our figure is taken from the male specimen in Dr. Staudinger's collection.

4. **Bleptina (?) lasæa,** sp. n. (Tab. XXXVII. fig. 13, ♀.)

Female. Primaries and secondaries pale dull brown; the primaries with a rather large round dark brown spot at the end of the cell, beyond which a similarly coloured zigzag waved line crosses the wing from the costal to the inner margin, three dark brown spots along the costal margin, a narrow brown line below the middle extending from the costal margin to the middle of the inner margin, and a minute white dot edged with dark brown at the end of the cell; the fringe of both wings brown; the underside very similar to the upperside, but considerably paler in colour: head, thorax, abdomen, and antennæ brown; the palpi brown, with numerous scattered white hairs; the legs pale brown, banded with greyish-white. Expanse $1\frac{3}{10}$ inch.

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen of this distinctly marked insect is contained in Dr. Staudinger's collection; it is the only example we have seen.

5. **Bleptina (?) antinoe,** sp. n. (Tab. XXXVII. fig. 14.)

Primaries yellowish-brown, crossed from the costal to the inner margin by two very faint brown lines, a rather indistinct orange-brown spot near the anal angle, and a minute white dot at the end of the cell; secondaries dull brown; the fringe brown, that of the primaries a little darker than that of the secondaries; the underside of both wings very pale brown: head and thorax yellowish-brown, the abdomen darker brown, the anal tuft pale brown; antennæ, palpi, and legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

6. **Bleptina (?) magas,** sp. n. (Tab. XXXVII. fig. 15, ♀.)

Female. Primaries and secondaries uniform dull brown, both wings crossed beyond the middle from the costal to the inner margin by a narrow brown line, which is edged with paler brown on the outer side, and with a submarginal row of small darker brown dots (with minute whitish-brown points) and a white streak at the end of the cell; the underside very similar to the upperside, but considerably paler in colour: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

7. **Bleptina (?) antelia,** sp. n. (Tab. XXXVII. fig. 16, ♀.)

Female. Primaries and secondaries dark brown; the primaries with the costal margin from the base to the apex creamy-white, and crossed from the costal to the inner margin by two rather wide creamy-white lines—the first near the base, the second beyond the middle; the secondaries partly crossed from the anal angle to about the middle of the wing by a creamy-white line; the outer margin of both wings edged with a black line, the fringes dark brown; the underside pale brown, with the lines very faintly indicated: the collar, thorax, and abdomen dark brown, the front of the head, the palpi, antennæ, and legs creamy-white. Expanse $1\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One female example.

8. **Bleptina (?) aratus,** sp. n. (Tab. XXXVII. fig. 17, ♀.)

Female. Primaries fawn-colour, crossed about the middle from the costal to the inner margin by two rather faint waved reddish-brown lines, a small dark brown spot on the costal margin near the base, a large angular dark brown spot edged with a pale yellowish-fawn-coloured line (more distinct on the outer than on the inner side) close to the apex, and several very minute black dots below the angular spot; secondaries dull brown, crossed from the costal to the inner margin by two darker brown lines—the first just below the middle of the wing, the second submarginal and paler than the other; the marginal lines of both wings black, the fringe fawn-colour; the underside very similar in colour to the upperside, but without the dark brown markings at the apex of the primaries, and with all the lines very indistinct: head, thorax, palpi, and antennæ fawn-colour, the abdomen and legs dull brown. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Two specimens of this distinct species, both females, are contained in Dr. Staudinger's collection.

9. **Bleptina (?) macedo,** sp. n. (Tab. XXXVII. fig. 18, ♀.)

Female. Primaries and secondaries pale pinkish-fawn-colour; the primaries with three brown streaks on the costal margin, a large round reddish-brown spot at the end of the cell, a faint waved brown line crossing

near the base from the costal to the inner margin, and a faint submarginal line extending from near the apex to the anal angle, the marginal line black, the fringe pale fawn-colour; the secondaries more dusky in colour, especially near the apex, crossed by two indistinct pale lines which are edged with darker brown on the outer side; the underside very similar to the upperside in colour, but without the dark marking on the primaries: head, thorax, abdomen, palpi, antennæ, and legs fawn-colour, the head and palpi a little darker than the other parts. Expanse $1\frac{1}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One female specimen.

10. **Bleptina (?) lyceus,** sp. n. (Tab. XXXVII. fig. 19, ♀.)

Female. Primaries and secondaries brownish-fawn-colour, the primaries darker along the costal margin, both wings crossed beyond the middle by a rather wide dark brown line, which is edged on either side with a narrow waved whitish line, and with the marginal line black and the fringe fawn-colour; the underside much more dusky in colour than the upperside, and almost without markings: head, thorax, palpi, and antennæ brownish-fawn-colour, the abdomen and legs dull brown. Expanse $1\frac{1}{10}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

CRYMONA.

Crymona, Walker, Trans. Ent. Soc. Lond. ser. 3, i. p. 117 (1862).

Walker founded this genus upon a male example of a Brazilian species, *C. receptalis*, Walk., the type being now in the Oxford Museum. *Herminia rhetusalis*, Walk., seems best placed here.

1. **Crymona rhetusalis.**

Herminia rhetusalis, Walk. Cat. xvi. p. 110 (♂)[1].

Hab. MEXICO, Amula in Guerrero 6000 feet, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*), San Isidro 1600 feet, Cerro Zunil 4000 feet, Zapote (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—VENEZUELA[1]; AMAZONS, Ega[1].

In our region this is a very common insect. It is extremely variable, both in size and colour: some specimens are dark brown, others quite pale fawn-colour. Mr. Herbert Smith captured his specimens between the months of February and May, and again in August 1888. Examples from the Volcan de Chiriqui are larger than those from more northern localities.

ARISTARIA.

Aristaria, Guenée, Sp. gén. des Lép. viii. p. 70 (1854); Walker, Cat. xvi. p. 129.

This genus was defined by Guenée from the male of a Brazilian insect, the type of which I have not seen. One species from Central America agrees fairly well, however, with the characters given by the author, and I venture to include it in his genus;

seven others are doubtfully referred to it. The female of *A. lydia* has the antennæ quite simple and the palpi rather small.

1. **Aristaria lydia,** sp. n. (Tab. XXXVII. figg. 20, 20 *a*, ♂.)

Male. Primaries dark brown, with a small black spot at the end of the cell, which has a few minute greyish scales on the outer side, a greyish-white submarginal line crossing the wing from the costal to the inner margin, and the space between it and the outer margin thickly irrorated with greyish-white scales (these in some specimens being almost obsolete); secondaries uniformly brown, slightly paler than the primaries, and with a short greyish-white line close to the anal angle; the marginal line of both wings black, the fringe brown; the underside pale dull brown, the greyish-white lines showing very faintly as above: head, thorax, abdomen, and legs dark brown; the antennæ and palpi reddish-brown, the hairs on the antennæ and at the end of the palpi yellowish-brown. The female similar to the male in colour and markings. Expanse, ♂ ♀, $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio, Caché (*Rogers*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

A few specimens only have been received. Our figure is taken from a Chiriqui example.

2. **Aristaria (?) lysis,** sp. n. (Tab. XXXVII. fig. 21, ♀.)

Female. Primaries and secondaries dull brown; the primaries crossed from the costal to the inner margin by two narrow waved darker brown lines—the first near the base, the second beyond the cell,—and with a variable rather large oval pale yellowish-brown spot (larger and brighter in colour in some examples) at the end of the cell; both wings with a submarginal row of minute yellowish-white dots, these being more distinct in some specimens than in others: head, thorax, palpi, antennæ, abdomen, and legs dull brown. Expanse $1\frac{3}{10}$ inch.

Hab. MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Rio Sucio (*Rogers*).

Varies considerably in colour and in the distinctness of the markings. The specimen from Mexico is duller in colour than any of the others before us. Our figure is taken from a Guatemalan example.

3. **Aristaria (?) pentheusalis.**

Bleptina pentheusalis, Walk. Cat. xvi. p. 128 (♀)[1].

Male. Very similar in colour to the female, but with a reddish-brown spot at the end of the cell; the antennæ tufted about the middle (unfortunately the palpi are broken off).

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA[1].

Our female specimen agrees with Walker's type in the National Museum.

4. **Aristaria (?) —— ?**

Hab. PANAMA, Volcan de Chiriqui 4000 feet (*Champion*).

One specimen, apparently a female, in very poor condition, without abdomen.

5. **Aristaria ——?**

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One worn specimen, apparently belonging to a distinct species.

6. **Aristaria (?) lycaon,** sp. n. (Tab. XXXVII. fig. 22, ♂.)

Male. Primaries pale brown shaded with darker brown, with three dark brown lines crossing from the costal to the inner margin, two blackish-brown spots close to the apex—the first rather large, the second small,—and a fine waved indistinct submarginal yellowish-brown line extending from the costal margin close to the apex to the anal angle; secondaries dull brown, with a faint rather darker brown line crossing the middle from the costal to the inner margin; the underside of both wings uniform pale dusky brown: head, thorax, abdomen, palpi, antennæ, and legs dull brown. The female very similar to the male, but more uniform in colour, and with all the markings more indistinct. Expanse, ♂ $1\frac{1}{2}$, ♀ $1\frac{3}{10}$ inch.

Hab. MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*); GUATEMALA, San Gerónimo, Capetillo (*Champion*).

Mr. Herbert Smith captured a male of this insect in August 1888; it is rather darker in colour than the male and female before me from Guatemala. A male from San Gerónimo is figured.

7. **Aristaria (?) apicata,** sp. n. (Tab. XXXVII. fig. 23, ♂.)

Male. Primaries dark fawn-colour, crossed from the costal to the inner margin by two dark brown lines which are edged with paler brown on the outer side—the first close to the base, the second beyond the middle,—two black spots at the end of the cell, and a pale waved submarginal line extending from near the apex to the anal angle; secondaries blackish-brown; the fringe of both wings yellowish fawn-colour; the underside almost uniform dull brown, slightly irrorated with a few greyish scales: head, thorax, abdomen, palpi, antennæ, and legs brown. The female very similar to the male, but usually very much paler in colour, and with simple antennæ. Expanse, ♂ ♀, $1\frac{1}{4}$ inch.

Hab. MEXICO, Mazatlan (*Forrer*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Caché (*Rogers*).

Varies considerably in colour, the females being generally the lightest. Mr. Herbert Smith captured specimens in March and April 1888. Our figure is taken from a Costa Rican male.

8. **Aristaria (?) mœra,** sp. n. (Tab. XXXVII. fig. 24, ♂.)

Male. Primaries and secondaries pale brown; the primaries crossed before the middle from the costal to the inner margin by a rather wide dark brown band, an oval spot of variable size and colour at the end of the cell (in some specimens greyish-yellow, in others black, and in some almost obsolete), and a submarginal row of very minute yellowish-white dots extending from near the apex to the inner margin just above the anal angle; the fringe of both wings pale brown; the underside uniformly brown. The female very similar to the male, but with the antennæ simple. Expanse, ♂ ♀, $1\frac{1}{4}$ to $1\frac{4}{10}$ inch.

Hab. MEXICO, Dos Arroyos in Guerrero 1000 feet, Teapa in Tabasco (*H. H. Smith*), Coatepec, Rinconada in Vera Cruz (*coll. Schaus*), Atoyac in Vera Cruz (*Schumann, H. H. Smith*), Cuesta de Misantla (*M. Trujillo*), Valladolid in Yucatan (*Gaumer*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Taboga I. (*J. J. Walker*).

In Mexico this appears to be a very common and variable species. Mr. Herbert Smith's specimens were captured in January and September 1888. Our figure is taken from a male from Atoyac.

THEOTINUS, gen. nov.

Male. Head small; the thorax and abdomen slender, the latter not extending beyond the wings. Palpi slender; the second joint rather long; the third joint small. Antennæ long, tufted with long hairs about the middle. Legs rather long and slender, the front pair clothed with hairs. The primaries long and narrow; the costal margin nearly straight from the base almost to the apex, where it is slightly rounded; on the costal margin above near the base is a large tuft of thick hairs which projects almost straight out from the wing; the outer margin considerably rounded to the anal angle; the inner margin quite straight. The secondaries much rounded from the apex to the anal angle; the costal margin straight; the inner margin thickly clothed with hairs.

The female differs from the male in the costal margin of the primaries not being tufted and in the simple antennæ.

Type *Bleptina virbiusalis*, Walker.

1. **Theotinus virbiusalis.** (Tab. XXXVIII. fig. 1, ♂.)

Bleptina virbiusalis, Walk. Cat. xvi. p. 126 (♀)[1].

Hab. Guatemala, Tamahu in Vera Paz (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet, Caché (*Rogers*).—Venezuela[1].

Our specimen from Guatemala, a female, is altogether darker in colour than those from Costa Rica; it is in very poor condition, and may prove to belong to a distinct species. A male from Costa Rica is figured.

2. **Theotinus lycimnia,** sp. n. (Tab. XXXVIII. fig. 2, ♀.)

Female. Primaries and secondaries dark brown; the primaries with the central portion pale brown, crossed by several indistinct darker brown lines, a small oval brown spot at the end of the cell edged with pale yellowish-brown, and a submarginal pale yellowish-brown waved line extending from the costal margin close to the apex to the inner margin near the anal angle, the marginal line black; the secondaries partly crossed near the anal angle by two fine yellowish-brown lines; the fringe of both wings alternately dark brown and pale yellowish-brown: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse $1\frac{1}{4}$ inch.

Hab. Mexico, Paso de San Juan in Vera Cruz (*coll. Schaus*).

Allied to *T. virbiusalis*, Walk. One specimen.

TORTRICODES.

Tortricodes, Guenée, Sp. gén. des Lép. viii. p. 71 (1854); Walker, Cat. xvi. p. 130[1]; Warren, Trans. Ent. Soc. Lond. 1889, pp. 217, 254[2], 255.

"Fore wings (of the male) with the costa excavated on each side of a thick crest of hairs in the middle; exterior border deeply notched"[1]. Female with the costal margin almost straight to the apex, without any tuft of hairs, the outer margin not lobed as in the male. For *Tortricodes* and two other genera, *Gaberasa*, Walk., and *Pteroprista*, Warr., Mr. Warren has proposed[2] the family "Pteropristidæ." From our region we

have examples of three species of *Tortricodes* and four of *Gaberasa*, including both sexes of all but one of them, represented by over 100 specimens. Mr. Warren remarks [2] that all the examples at present known of *Tortricodes*, *Gaberasa*, and *Pteroprista* are males; the females, however, have been known for years in some collections, including that of the Oxford Museum. He has omitted the allied genus *Lascoria*, Walker, from his family Pteropristidæ; it has the wing cleft as in *Tortricodes*. We do not adopt the family name proposed by Mr. Warren for the five male specimens in the British Museum (two only of which I have been able to find), because to be consistent it would be necessary to make a large number of additional families, without having sufficient material for so doing.

1. **Tortricodes pterophoralis.**

Tortricodes pterophoralis, Guen. Sp. gén. des Lép. viii. p. 72, Delt. et Pyral. t. 7. fig. 2 (♂) [1]; Walk. Cat. xvi. p. 130 [2]; Warren, Trans. Ent. Soc. Lond. 1889, p. 255.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; BRAZIL [1 2].

The female is very similar to the male, but is without the tuft of hair on the costal margin and the cleft on the outer margin of the primaries. In our region *T. pterophoralis* appears to be a fairly common species, of which the females seem to be more numerous than the males.

2. **Tortricodes aon,** sp. n. (Tab. XXXVIII. figg. 3, 3 *a*, ♂; 4, ♀.)

Male. Primaries pale brown, the tuft of hair on the costal margin pale yellowish-brown and less dense than in *T. pterophoralis*, the wing crossed from the costal to the inner margin by four fine waved brown lines, that nearest the base and joining the costal tuft shaded with very pale brown on the inner side, two small dark spots close to the apex (the first smaller than the second), the outer margin cleft as in *T. pterophoralis*, but with a semihyaline elongated spot just above the basal end of the cleft between it and the costal margin; secondaries pale dusky brown, crossed from the costal to the inner margin by two very faint brown lines; the underside of both wings pale brown irrorated with greyish scales, the fringe pale brown: head, thorax, abdomen, legs, and antennæ brown; the palpi dark brown, considerably longer than in *T. pterophoralis*. The female very similarly marked to the male, but altogether rather paler in colour, and differing (as all the females of this group do) in the entire absence of the cleft in the outer margin of the primaries. Expanse, ♂ $1\frac{4}{10}$, ♀ 1 inch.

Hab. MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, Cerro Zunil 4000 feet, Senahu in Vera Paz (*Champion*); PAMAMA, Chiriqui (*Arcé, mus. D.*; *Ribbe, mus. Staudinger*).

Closely allied to *T. pterophoralis*, from which it may be easily distinguished by its larger size and paler colour, and by the semihyaline spot just above the cleft on the outer margin of the primaries; in some specimens, however, this spot is not so distinct as it is in others.

3. **Tortricodes alucitalis?** (Tab. XXXVIII. figg. 5, 5 *a*, ♂; 6, ♀.)

Tortricodes alucitalis, Guen. Sp. gén. des Lép. viii. p. 73 (♂)[1]; Walk. Cat. xvi. p. 131[2]; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1870, sep. copy, p. 43[3]; Warren, Trans. Ent. Soc. Lond. 1889, p. 254[4].

Hab. Guatemala, Volcan de Atitlan (*Champion*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Amazons[4]; Brazil[1 2]; Cuba[3].

Mr. Champion captured one male of this insect in Guatemala; both sexes are contained in Dr. Staudinger's Chiriqui collection. The specimen from the Amazons in the National Museum is a small one and in poor condition. Our figures are taken from Chiriqui examples.

GABERASA.

Gaberasa, Walker, Cat. xxxiv. p. 1197 (1865); Warren, Trans. Ent. Soc. Lond. 1889, pp. 254, 255.

This genus was founded by Walker upon the male of a species from North America, but it is not included in Grote's 'Check-list of North-American Moths.' *Gaberasa* is allied to *Tortricodes*, from which it is at once distinguished by the entire absence of the tuft of hair on the costal margin of the primaries of the male; in all other respects the two genera are very much alike.

1. **Gaberasa anxa**, sp. n. (Tab. XXXVIII. figg. 7, 7 *a*, ♂; 8, ♀.)

Male. Primaries deeply cleft on the outer margin, pale brown, crossed from the costal to the inner margin by three dark brown bands—the first wide, the third simply a waved line at the base of the cleft,—and with a pale yellow spot, bordered on the apical side with dark brown, on the outer margin; secondaries dull brown, paler at the base, and crossed beyond the middle by two faint brown lines; the underside pale brown, both wings crossed by a submarginal narrow waved whitish line: head, thorax, abdomen, and legs brown, the palpi and antennæ dark brown. The female very similar to the male, but generally darker in colour and with the submarginal line more distinct on the upperside. Expanse, ♂ $1\frac{1}{4}$, ♀ 1 inch.

Hab. Guatemala, San Isidro 1600 feet, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); Panama, Chiriqui (*Ribbe*).

Mr. Champion captured a fine series of both sexes of this species in Guatemala; it is allied to *G. ambigualis*, Walk.

2. **Gaberasa manes**, sp. n. (Tab. XXXVIII. figg. 9, 9 *a*, ♂; 10, ♀.)

Male. Primaries rather widely cleft on the outer margin, pale brown, with a narrow pale yellowish-brown line crossing near the base from the costal to the inner margin, broadly bordered on the outer margin (from the inner margin to the middle of the wing) with dark brown, a large pale yellowish-brown spot just above the cleft, and a submarginal pale brown line extending from near the apex to the anal angle, the fringe dark brown; secondaries uniformly dull brown, slightly paler at the base and along the costal margin, two submarginal indistinct pale brown lines extending from the costal margin near the apex to the inner margin above the anal angle, the marginal line black with white points, an indistinct small brown spot at the end of the cell, the fringe dark brown; the underside of both wings pale greyish-brown, the submarginal line white and very distinct, the spot at the end of the cell on the secondaries deep

black: head, thorax, antennæ, palpi, and legs dark brown; the abdomen brown, but considerably paler beneath. The female very like the male, but paler in colour. Expanse, ♂ $1\frac{1}{2}$, ♀ $1\frac{3}{10}$ inch.

Hab. MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Volcan de Atitlan (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

We have only seen two males of this insect, one from Mexico, the other from Costa Rica. Our figures are taken from Costa Rican examples. This species is by far the largest in the genus.

3. **Gaberasa albibasalis.** (Tab. XXXVIII. figg. 11, ♂; 12, ♀.)

Bleptina albibasalis, Walk. Cat. xxxiv. p. 1160 [1].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—VENEZUELA [1].

Walker described this species from a Venezuelan specimen, which is, without doubt, a female and not a male as stated by him [1]. We have examples of both sexes: the discovery of the male shows that it belongs to the genus *Gaberasa*, this sex differing as usual from the female in the cleft outer margin of the primaries.

4. **Gaberasa (?) albipunctalis,** sp. n. (Tab. XXXVIII. figg. 13, 13 *a*, ♂.)

Male. Primaries pale fawn-colour, crossed about the middle from the costal to the inner margin by a wide brownish band edged on both sides with a waved black line, the black line bordered with a white line, a dark brown tuft of hairs at the base of the cleft on the outer margin, and a submarginal row of rather large white spots extending from near the apex to the inner margin by the anal angle; secondaries creamy-white, with a faint brown line crossing the middle from the costal to the inner margin, and a short white streak edged on both sides with dark brown close to the anal angle; both wings with a marginal line of small black spots; the fringe pale fawn-colour; the underside pale greyish-brown, with the markings very indistinct: head, thorax, palpi, antennæ, abdomen, and legs pale greyish-fawn-colour. Expanse, ♂, 1 inch.

Hab. MEXICO, Cordova (*Rümeli*), Jalapa (*Höge*).

I place this insect in the genus *Gaberasa* with considerable doubt: the palpi (♂) are rather more thickly clothed with hairs and the outer margin of the primaries is much more angular than usual; but with only two specimens, both males, one of which is not in good condition, I think it better for the present to provisionally include it in this genus.

LASCORIA.

Lascoria, Walker, Cat. xix. p. 838 (1859).

Walker founded this genus upon a male insect from Brazil. It is allied to *Tortricodes* and *Gaberasa*; but differs from both in its narrower and longer primaries, smaller and more slender palpi, and slightly more prominent eyes. The sexes differ as in the allied genera. From our region we have a good series of specimens of both sexes of Walker's species.

1. **Lascoria phormisalis.** (Tab. XXXVIII. figg. 14, ♂; 15, ♀.)

Lascoria phormisalis, Walk. Cat. xix. p. 839 (♂)[1].

Hab. Mexico, Jalapa (*coll. Schaus*); Guatemala, Cerro Zunil 4000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—South-east Brazil, Rio Janeiro[1].

It may be useful to note here that the types of many species described by Walker from Mr. Fry's collection, including that of the present insect, are now in the late Mr. Saunders's collection in the museum at Oxford.

OTACES, gen. nov.

Male. Head, including the eyes, small; the thorax rather broad; the tegulæ long; the abdomen stout, extending slightly beyond the wings. Palpi large, porrect; second joint long and flat, thickly clothed with hairs; third joint small and very fine. Proboscis short and slender. Antennæ about half the length of the primaries, very slender, and tufted with hair near the end. Legs long and slender, with long spurs. The primaries with their costal margin straight, slightly rounded at the apex; the outer margin angular and deeply cleft near the anal angle; at the base of the cleft is a tuft of short hairs similar to that present in the genus *Lascoria*; on the underside the costal margin is thickly clothed with short hair from the base almost to the apex, and there is a tuft of long appressed silky hairs extending across the wing from near the inner margin. The secondaries large and very much rounded from the apex to the anal angle. The fringe of both wings rather long.

Type *Otaces lineata.*

This genus is allied to *Gaberasa* and *Lascoria,* from both of which it may be at once distinguished by the shape of the primaries, the differently formed palpi, and the tufted antennæ in the male.

1. **Otaces lineata,** sp. n. (Tab. XXXVIII. figg. 16, 16 *a*, ♂.)

Male. Primaries dark brown, with the costal margin from the base almost to the apex broadly edged with pale yellowish-brown, three dark brown lines crossing the wing from the costal margin (which they do not quite touch) to the inner margin, and a large somewhat oval grey spot close to the anal angle, above which a faint yellowish-brown line extends almost to the apex, the fringe and the tuft of hair at the base of the cleft brown; secondaries dull brown, paler at the base, the fringe yellowish-brown; the underside brown, that of the secondaries irrorated with greyish scales and crossed by two dark brown lines: head in front, palpi, and sides of the thorax yellowish-brown, the rest of the thorax, the antennæ, and tegulæ dark brown; the abdomen dull brown, similar in colour to the secondaries; the legs pale brown. The female very similar to the male, but with simple antennæ and without the cleft in the primaries. Expanse, ♂ ♀, 1½ inch.

Hab. Panama, Chiriqui (*Ribbe; mus. Staudinger*).

Our description and figure are taken from Dr. Staudinger's specimens, those in our own collection being very much worn.

SITOPHORA.

Sitophora, Guenée, Sp. gén. des Lep. viii. p. 74 (1854); Walker, Cat. xvi. p. 131.

This genus was founded by Guenée upon the male of a Brazilian insect. It is

allied to *Tortricodes*, the costal tuft of hairs being very similar; but the outer margin of the primaries in the male is not deeply cleft. The second joint of the palpi in the male is exceedingly long, fully half the length of the costal margin, and the third joint is sickle-shaped.

1. **Sitophora (?) lyces,** sp. n. (Tab. XXXVIII. figg. 17, 17 *a*, ♂.)

Male. Primaries dark brown, slightly shaded with purplish along the inner margin, with a darker brown band crossing the wing near the base from the costal to the inner margin, a rather large pale yellowish-brown subapical spot, and a pale marginal line extending from the apex almost to the anal angle, the tuft on the costal margin and the fringe dark brown; secondaries uniform dark brown, the fringe similarly coloured; the underside paler brown, that of the secondaries with a submarginal waved greyish line extending from the apex to the anal angle: head, thorax, abdomen, antennæ, and legs dark brown; the palpi dark brown, with the third joint yellowish-brown. Expanse, ♂, 1 inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

One specimen only of this distinct species was captured by Mr. Champion. I include it in *Sitophora* with some doubt, not having seen the type; the insect, however, agrees well with the generic description.

GLENOPTERIS.

Glenopteris, Hübner, Verz. bek. Schmett. p. 255 (1816); Guenée, Sp. gén. des Lép. viii. p. 79; Walker, Cat. xvi. p. 135.

This genus hardly seems to belong to the Deltoides. In pattern the primaries closely resemble those of several species of *Cœnipeta.* One species only is known.

1. **Glenopteris oculata.**

Phalæna oculata, Cram. Pap. Exot. iv. p. 71, t. 324. fig. F [1].

Glenopteris oculifera, Hübn. Exot. Schmett. ii. t. 200. figg. 1, 2 (♂), 3, 4 (♀) [2]; Verz. bek. Schmett. p. 255.

Glenopteris oculiferalis, Guen. Sp. gén. des Lép. viii. p. 80 [3]; Walk. Cat. xvi. p. 136 [3].

Glenopteris herbidalis, Guen. loc. cit. p. 80, Delt. et Pyral. t. 4. fig. 4 (♀) [4].

Hab. GUATEMALA, Cerro Zunil 4000 feet (*Champion*); PANAMA, Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; GUIANA, Surinam [1 4]; AMAZONS [4]; BRAZIL [3 4].

Widely distributed, but apparently nowhere common. Guenée's description [3] of *G. oculiferalis* is taken from Hübner's figures [2]; no locality is mentioned by either of these authors.

EPIZEUXIS.

Epizeuxis, Hübner, Verz. bek. Schmett. p. 346 (1816); Walker, Cat. xvi. p. 132; Grote, List of North-American Moths, p. 43.

Helia, Guenée, Sp. gén. des Lép. viii. p. 75 (1854).

Hübner included four species in his genus *Epizeuxis*, one of which occurs in our region; we now provisionally place three others in it.

1. **Epizeuxis æmula.**

Idia Dolosa æmula, Hübn. Exot. Schmett. i. t. 213. figg. 1, 2 (♂), 3, 4 (♀).
Epizeuxis æmulalis, Hübn. Verz. bek. Schmett. p. 346; Walk. Cat. xvi. p. 134 (♀)[1].
Helia æmulalis, Guen. Sp. gén. des Lép. viii. p. 78 (♀)[2].
Epizeuxis æmula, Grote, List of North-American Moths, p. 43[3].

Hab. North America[1 2 3], Colorado, Illinois.—Mexico, Presidio de Mazatlan (*Forrer*).

The single specimen captured by Mr. Forrer in N.W. Mexico agrees with others from Colorado and Illinois in my own collection.

2. **Epizeuxis (?) anticlea,** sp. n. (Tab. XXXVIII. fig. 18.)

Primaries and secondaries dull greyish-brown, crossed from the costal to the inner margin by several very fine waved white lines, a marginal row of minute black dots with white points on the inner side extending from the apex to the anal angle of both wings, the fringe dull greyish-brown; the underside pale brown, with darker brown lines crossing both wings: head, thorax, abdomen, legs, palpi, and antennæ dull greyish-brown. Expanse 1 inch.

Hab. Guatemala, San Gerónimo (*Champion*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

This insect appears to be allied to *E. æmula*. Mr. Champion captured two specimens, both of which I believe to be females.

3. **Epizeuxis (?) maceria,** sp. n. (Tab. XXXVIII. fig. 19.)

Primaries and secondaries pale fawn-colour, with a greenish tinge in certain lights, crossed from the costal to the inner margin by four very fine waved pinkish-brown lines edged with silvery-white on the inner side, two dark pinkish-brown spots at the end of the cell of the primaries, and a marginal row of small black dots extending from the apex to the angle of both wings, the marginal line pinkish-brown, the fringe pale fawn-colour: head, palpi, antennæ, thorax, and abdomen pale fawn-colour. Expanse 1 inch.

Hab. Panama, Caldera in Chiriqui 1200 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).

The two examples in Dr. Staudinger's collection are considerably worn, but I believe them to be conspecific with the insect now described.

4. **Epizeuxis (?) anser,** sp. n. (Tab. XXXVIII. fig. 20.)

Primaries and secondaries pale greyish-brown, crossed from the costal to the inner margin by four narrow waved darker brown lines, a black spot edged on the inner side with white close to the apex of the primaries, and a very similar spot at the anal angle of the secondaries, a marginal row of very minute black dots with white points extending round both wings, the fringe greyish-brown; the underside very pale grey-brown, both wings crossed by a darker brown line: head, thorax, abdomen, antennæ, palpi, and legs pale greyish-brown. Expanse $1\frac{1}{4}$ inch.

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*); Panama, Chiriqui (*Ribbe*).

We have a good series of specimens of this species from Mexico, captured by Mr. Herbert Smith between the months of January and April 1888. One example only from Panama.

MEGATOMIS.

Megatomis, Hübner, Verz. bek. Schmett. p. 342 (1816); Walker, Cat. xvi. p. 142, & xxxiv. p. 1165.

Homogramma, Guenée, Sp. gén. des Lép. viii. p. 88 (1854).

Palpi of the male curved over the head and thorax, the second joint very long.

Walker in his Catalogue includes twelve species in this genus, and others have since been described by Felder and Rogenhofer. Four are now added from Central America, all of which appear to be undescribed.

1. **Megatomis anna**, sp. n. (Tab. XXXVIII. figg. 21, 21 *a*, ♂; 22, ♀.)

Male. Primaries pale fawn-colour, thickly irrorated with dark brown scales, a small yellowish streak near the apex and a dark brown spot at the end of the cell, the outer margin edged with a row of small black points, the fringe pale fawn-colour; secondaries a little darker in colour than the primaries, with a faint submarginal line extending from near the apex to the anal angle, the marginal line black, the fringe pale fawn-colour: head, thorax, and abdomen fawn-colour, rather darker than the wings, the legs and antennæ brown; the palpi fawn-colour, the hairs on the third joint very pale. The female very similar to the male, but with much finer antennæ, and shorter and more slender palpi. Expanse, ♂ $1\frac{1}{4}$, ♀ 1 inch.

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

Three specimens. The description and figure of the male are taken from an example in our own collection, that of the female from one in Dr. Staudinger's collection.

2. **Megatomis lysizona**, sp. n. (Tab. XXXVIII. figg. 23, 23 *a*, ♂; 24, ♀.)

Male. Primaries and secondaries dark brown, crossed about the middle by a yellowish-white line; the primaries edged along the costal margin from the base to the apex with pale brown, with two short white streaks and a small black dot close to the apex, and a rather longer white streak on the outer margin just below it; the fringe of both wings dark brown; the underside fawn-colour, shading to darker brown towards the outer margin, both wings with a submarginal very fine waved line extending from the apex to the anal angle, the primaries crossed beyond the middle by one, the secondaries by two dark brown lines: head, thorax, and abdomen dark brown, on the underside considerably paler in colour; the legs, antennæ, and palpi dark brown, the third joint of the latter tufted with whitish hairs. The female very similar to the male, but with the line crossing the wings much narrower, the palpi shorter and very slender, and the antennæ very fine. Expanse, ♂ $1\frac{3}{10}$, ♀ $1\frac{1}{10}$ inch.

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

Two males of this species were captured by Mr. Herbert Smith at Teapa, one in February and one in April 1888. The description and figures are taken from a pair in Dr. Staudinger's collection.

3. **Megatomis anthippe,** sp. n. (Tab. XXXVIII. figg. 25, 25 *a*, ♂.)

Male. Primaries and secondaries dark brownish fawn-colour; the primaries crossed from the costal to the inner margin by two narrow waved pale lines—the first close to the base, the second beyond the middle,—the discoidal mark pale yellow, a small black spot at the apex, and a submarginal row of very minute indistinct pale dots extending from the costal to the inner margin, the outer margin with minute black points; the secondaries crossed about the middle by a pale yellowish-white line, with a submarginal row of dots as on the primaries, but slightly more distinct; the fringe of both wings dark brown; the underside uniform pale yellowish-brown, crossed by very faint lines: head, thorax, abdomen, palpi, and antennæ dark brownish-fawn-colour, the legs and the underside of the thorax and abdomen pale yellowish-brown. Expanse $\frac{9}{10}$ inch.

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*).

One specimen.

4. **Megatomis antonia,** sp. n. (Tab. XXXVIII. figg. 26, 26 *a*, ♂.)

Male. Primaries and secondaries brown, crossed below the middle by a darker brown line, on the inner side of which is a pale yellowish-brown line, this latter on the primaries not extending to the costal margin, the primaries with a dark brown dot at the apex, the fringe dark brown; the underside paler than above: head, thorax, abdomen, antennæ, and legs brown, the palpi pale yellowish-brown. Expanse $1\frac{1}{4}$ inch.

Hab. Mexico, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*).

Two specimens, both males.

PERIPHRAGE.

Periphrage, Herrich-Schäffer, Samml. aussereur. Schmett. p. 69 (1855).

This genus is not mentioned by Walker in his Catalogue. It is closely allied to *Megatomis*, from which it may be distinguished by the much shorter and smaller palpi, shorter antennæ, and rather narrower primaries. The single species included in the genus by Herrich-Schäffer came from Brazil, and we now have examples of it from our region; two additional species are here added, both from Mexico.

1. **Periphrage barbatula.**

Periphrage barbatula, Herr.-Schäff. Samml. aussereur. Schmett. pp. 69, 82, fig. 396 [1].

Hab. Guatemala, Pantaleon 1700 feet (*Champion*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Brazil [1].

We have received two specimens of this insect, and there is a third in Dr. Staudinger's collection. These examples are a little yellower in colour than Herrich-Schäffer's figure, which represents a female; those before us are all males, having a very small tuft of hairs almost at the end of the antennæ.

2. **Periphrage mago,** sp. n. (Tab. XXXVIII. figg. 27, 27 *a*, ♂.)

Male. Primaries and secondaries pale brown, thickly irrorated with dark brown scales; a white streak at the end of the cell on the primaries, below which is an ill-defined light-coloured band that extends to the inner margin and crosses the middle of the secondaries, a submarginal narrow white line extending from

the apex to the anal angle of the primaries, the secondaries with a black spot at the end of the cell and several very narrow dark brown lines crossing below the middle; the fringe pale brown; the underside of both wings pale yellowish-fawn-colour: head, thorax, abdomen, palpi, antennæ, and legs pale brown. Expanse $\frac{7}{10}$ inch.

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*).

Two specimens. This species resembles to some extent *Megatomis remulcens*, Feld. & Rogenh., but is altogether a smaller insect.

3. **Periphrage anyte**, sp. n. (Tab. XXXVIII. figg. 28, 28 *a*, ♂.)

Male. Primaries and secondaries dark brown, crossed beyond the middle by two very distinct greyish-brown zigzag lines; the primaries with the costal margin pale brown from the base almost to the apex, a pale brown line crossing near the base, a greyish-brown spot at the end of the cell, another on the outer margin below the apex, and one at the anal angle; the marginal line of both wings black, the fringe brown; the underside paler than the upperside and very similarly marked: head, thorax, palpi, antennæ, and legs brown; the abdomen brown, banded with paler brown, the anus pale brown. Expanse $1\frac{1}{10}$ inch.

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*).

Two examples, both males.

MASTIGOPHORUS.

Mastigophorus, Poey, Cent. Lép. Cuba, 1e decade (1832); Butler, Ann. & Mag. Nat. Hist. (6) iii. p. 358.

Mastigophora, Guenée, Sp. gén. des Lép. viii. p. 93; Walker, Cat. xvi. p. 149.

Charmodia, Möschler, Verh. zool.-bot. Ges. Wien, xxxii. p. 356 (1881); Beitr. zur Schmett.-Fauna von Surinam, iv. p. 56.

This genus was described, and the male and female figured, by Poey, who included in it a single species from Cuba. The male differs from the corresponding sex of nearly all other known genera of Deltoides in the great length of the palpi, and in these organs having a large brush-like tuft of hairs on the third joint. The Amazonian species placed by Felder and Rogenhofer in *Mastigophorus* (Reise der Novara, Lep. t. 120. fig. 11) cannot be included in it, this insect having tufted antennæ, a character foreign to either sex of the present genus.

1. **Mastigophorus lycagusalis.**

Mastygophora lycagusalis, Walk. Cat. xvi. p. 150[1].

Bertula (?) *monstrosalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 120. fig. 33, Erkl. der Taf. 120. no. 33 (♂)[2].

Hab. Mexico, Cordova (*Rümeli*); Guatemala, Volcan de Atitlan (*Champion*); Costa Rica, Rio Sucio, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—Venezuela [1 2].

To judge from the large series of specimens before me, this variable insect is common in Costa Rica and the State of Panama. Felder and Rogenhofer's figure is paler in colour than most of the Central-American examples.

The female is very similar to the male, but has quite small palpi.

2. **Mastigophorus lygdus,** sp. n. (Tab. XXXIX. figg. 1, 1 *a*, ♂.)

Male. Primaries dark brown, crossed from the costal to the inner margin by two narrow slightly waved yellow lines—the first close to the base, the second beyond the middle,—beyond which is a very faint zigzag pale line, the marginal line with black points, a whitish streak at the end of the cell, the fringe dark brown; secondaries pale greyish-brown, crossed below the middle by three pale brown bands: head, thorax, and abdomen dark brown, the antennæ and legs paler brown; the palpi very long, the first joint dark brown, the second joint almost white, the third joint tufted with long yellowish-brown hairs. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

Allied to *M. mirabilis*, Butl., from Jamaica, from which it may be at once distinguished by having only two lines crossing the primaries.

Three male specimens, found in the pine-woods of the Los Altos region of Guatemala.

3. **Mastigophorus antorides,** sp. n. (Tab. XXXIX. figg. 2, 2 *a*, ♂.)

Male. Primaries dark brown, crossed from the costal to the inner margin by three waved darker brown lines—the first close to the base, the second beyond the middle, and the third submarginal, the second line edged on both sides with paler brown,—a minute dot in the cell and a short streak at the end of it pale yellowish-brown; secondaries uniform dark brown, crossed below the middle by two fainter brown lines; the marginal line of both wings black and the fringe dark brown; the underside much paler in colour, that of the secondaries with the dark brown lines more distinct, and also with a large black dot at the end of the cell: head, thorax, and abdomen above dark brown, the underside and the legs pale brown; the palpi very long and slender, the outer side and the tuft of hairs dark brown, the inner side pale brownish-white; antennæ dark brown, rather deeply pectinated. The female generally paler in colour than the male, and with small palpi. Expanse, ♂ ♀, $1\frac{1}{10}$ inch.

Hab. MEXICO, State of Durango (*Forrer*), Cuesta de Misantla (*M. Trujillo*), Coatepec (*Brooks, Schaus*), Jalapa (*coll. Schaus*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

A common insect in Costa Rica. The large series of specimens before me show a considerable amount of variation in the colour and position of the markings. Our figure is taken from a male from Cuesta de Misantla.

4. **Mastigophorus (?) anthores,** sp. n. (Tab. XXXIX. fig. 3, ♂.)

Male. Primaries pale brown, slightly irrorated with grey scales, crossed between the base and the end of the cell from the costal to the inner margin by two waved indistinct brown lines, a large oval reddish-brown spot at the end of the cell, beyond which a distinct dark brown line crosses the wing, a dark brown spot close to the apex, the marginal line black, the fringe brown; secondaries dull brown, considerably greyer in colour than the primaries, crossed from the costal to the inner margin below the middle by a faint brown line, the marginal line black, the fringe dark brown; the underside much paler than the upper-side, with the lines crossing the wings very similar to those above: head, thorax, abdomen, antennæ, and legs brown; the palpi pale yellowish-brown on the inner side, dark brown on the outer side. Expanse $1\frac{1}{10}$ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

One male specimen. This and the following three species very closely resemble the typical *Mastigophorus* in form; but they differ in having the second joint of the palpi in the males very much shorter.

5. **Mastigophorus (?) lysaniax**, sp. n. (Tab. XXXIX. figg. 4, 4 *a*, ♂.)

Male. Primaries pale brown, crossed near the base by a dark brown line, a small pale spot at the end of the cell, beyond which the wing is crossed from the costal to the inner margin just above the anal angle by two narrow dark brown lines, the fringe pale brown; secondaries dull brown, slightly greyish along the costal margin, with two dark brown lines, edged on the outer side with paler brown, partly crossing the wing from the anal angle; the underside very pale brown, with all the lines very indistinct: head, front of the thorax, antennæ, palpi, and legs pale brown, the rest of the thorax and the abdomen darker brown. Expanse 1¼ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

The three male specimens captured by Mr. Champion in Guatemala show considerable variation, not only in colour but in the distinctness of the lines crossing the wings; one example is of a pale buff colour, with the lines very faint on the primaries. The Chiriqui specimen in Dr. Staudinger's collection is similar to the one figured. The female remains to be discovered.

6. **Mastigophorus (?) mallophora**, sp. n. (Tab. XXXIX. figg. 5, 5 *a*, ♂.)

Male. Primaries and secondaries dull whitish-brown, slightly darker round the outer margin, an indistinct brown spot at the end of the cell on the primaries, both wings crossed by a submarginal dark brown line (on the primaries from the costal to the inner margin, on the secondaries from the costal margin to the anal angle) and with the marginal line marked with very fine black points; the underside very similar in colour to the upperside, but with the submarginal line very indistinct: head, thorax, abdomen, palpi, antennæ, and legs pale brown. Expanse 1 inch.

Hab. MEXICO, Jalapa (*coll. Schaus*).

Of this dull-coloured species I have only seen the male specimen captured by Mr. Schaus, who has kindly placed it at my disposal to describe and figure.

7. **Mastigophorus (?) aonia**, sp. n. (Tab. XXXIX. figg. 6, 6 *a*, ♂.)

Male. Primaries and secondaries from the base to beyond the middle dark brown, where both wings are crossed by a narrow brownish-white line bordered on the outer side with pale brown (this colour shading to dark brown on the outer margin), a faint brownish-white line crossing the primaries from the costal to the inner margin near the base, a zigzag faint submarginal line extending from the costal margin near the apex to the inner margin of both wings, the marginal line of the primaries and secondaries black, the fringe dark brown; the underside pale brown, with a few indistinct markings: head, thorax, and abdomen dark brown, the latter banded with pale brown; the antennæ and palpi brown, the tuft of hair on the latter pale brown; the legs brown. Expanse 1 inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Two specimens of this distinct species, both males, were received from Mr. Champion, one being considerably paler in colour than the other. Our figure is taken from the darker of the two.

NEOHERMINIA, gen. nov.

Head and eyes small; antennæ fine, rather more than half the length of the costal margin. Palpi of the male short, turned back over the head and tufted with hairs at the end; those of the female shorter and simple. Thorax small; abdomen slender, extending slightly beyond the wings; legs rather long and slender, the front pair in the male tufted with hair. Wings moderately small and rather broad; the

primaries with the costal margin straight, slightly rounded at the apex, and the exterior margin angular in the middle, more so in the male than the female; the secondaries considerably rounded from the apex to the middle, then nearly straight to the anal angle.

Type *Neoherminia pyramusalis*, Walk.

1. Neoherminia pyramusalis.

Herminia pyramusalis, Walk. Cat. xvi. p. 106 (♂) [1].

Bleptina cæpioalis, Walk. Cat. xix. p. 866 (♂) [2].

Hab. North America, United States [1].—Mexico, Presidio de Mazatlan (*Forrer*), Jalapa, Cuesta de Misantla (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); Guatemala, Purula, San Gerónimo, Dueñas (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet, Caché (*Rogers*); Panama, Chiriqui (*Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—Brazil, Rio Janeiro [2].

A very common insect in Central America. It varies considerably in colour, from light to quite dark brown, but in no one locality is any form constant. Mr. Herbert Smith captured a large number of specimens during the months of January, February, and March, 1888. Walker described [1] *Herminia pyramusalis* from a specimen said to come from the United States, but the species is not included in Grote's 'Check-List of North-American Moths.' The type of *Bleptina cæpioalis*, Walk., is now in the Oxford Museum.

2. Neoherminia ceusalis. (Tab. XXXIX. fig. 7.)

Bleptina ceusalis, Walk. Cat. xix. p. 868 (♀) [1].

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).—Brazil, Rio Janeiro [1].

The only specimen we have seen of this insect from our region is the one kindly communicated by Dr. Staudinger; it is almost identical with the type, now in the Oxford Museum.

3. Neoherminia diruptalis. (Tab. XXXIX. fig. 8.)

Bleptina diruptalis, Walk. Cat. xxxiv. p. 1161 (♂) [1].

Hab. Mexico, Coatepec (*coll. Schaus*), Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); Guatemala, El Reposo 800 feet, Zapote (*Champion*); Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Chiriqui (*Ribbe*).—Brazil [1].

Not uncommon in our region. It varies greatly in colour, the females generally being much darker than the males. A specimen in Mr. Schaus's collection is the darkest I have seen, but on the underside it agrees with others before me from several of the above-mentioned localities.

4. Neoherminia (?) bisignalis.

Hypena bisignalis, Walk. Trans. Ent. Soc. Lond. 3rd ser. i. p. 108 (♂) [1].

Hab. Mexico, Presidio de Mazatlan (*Forrer*), Teapa in Tabasco (*H. H. Smith*);

GUATEMALA, Cahabon in Vera Paz (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL [1].

Our specimens agree with Walker's type, which is now in the Oxford Museum. The females are more distinctly marked than the males.

5. **Neoherminia (?) apsinthes,** sp. n. (Tab. XXXIX. fig. 9, ♀.)

Female. Primaries and secondaries dull pale brown, crossed beyond the middle from the costal to the inner margin by two faint narrow waved brown lines, a black spot at the end of the cell on the primaries, the fringe pale brown; the underside very similar to the upperside, but paler in colour: head, thorax, and abdomen brown, the antennæ, palpi, and legs rather lighter brown. Expanse $1\frac{1}{10}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Two specimens, both females, are all I have seen of this species. It is allied to *N. bisignalis*, Walk.

6. **Neoherminia (?) anchisa,** sp. n. (Tab. XXXIX. fig. 10.)

Primaries pale greyish-brown, with a pinkish tinge in certain lights, crossed from the costal to the inner margin by three darker brown bands—the first close to the base, the second at the end of the cell, and the third submarginal,—a small round dot about the middle and an oval spot at the end of the cell, both blackish-brown, a waved row of very minute black spots crossing the wing from the costal to the inner margin just beyond the cell; secondaries uniformly dull brown; the marginal line of both wings with black points; the underside considerably paler in colour than the upperside: head, thorax, abdomen, antennæ, palpi, and legs pale greyish-brown. Expanse $1\frac{1}{10}$ inch.

Hab. MEXICO, Coatepec (*coll. Schaus*).

One specimen, which I believe to be a female.

7. **Neoherminia (?) angitia,** sp. n. (Tab. XXXIX. fig. 11.)

Primaries pale brownish-fawn-colour, shaded with darker brown along the costal margin close to the apex, crossed near the base from the costal to the inner margin by a dark brown waved line, and also with a very indistinct line beyond the cell, a rather large almost round black spot on the inner margin slightly above the anal angle, and a faint brown submarginal waved line extending from near the apex to the anal angle, the marginal line with black points; secondaries uniform blackish-brown; the fringe of both wings pale brown; the underside very much paler than the upperside, and almost without markings, a brown line crossing the middle of the secondaries excepted: head, thorax, legs, and abdomen pale brown (antennæ and palpi wanting). Expanse 1 inch.

Hab. MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

One specimen only, apparently of the female sex.

8. **Neoherminia (?) stalemusalis.** (Tab. XXXIX. figg. 12, 12 *a*, ♂; 13, ♀.)

Bleptina stalemusalis, Walk. Cat. xix. p. 869 (♂) [1].

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—SOUTH-EAST BRAZIL, Rio Janeiro [1].

Our specimens do not differ from Walker's type, now in the Oxford Museum. We figure both sexes.

9. **Neoherminia (?) thisbesalis.**

Bleptina thisbesalis, Walk. Cat. xvi. p. 127 (♀)[1].

Hab. MEXICO, Presidio de Mazatlan (*Forrer*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).—VENEZUELA[1].

In the form of the wings, especially in the male, this species has much the appearance of a *Palthis*; but the palpi are not tufted as in the males of that genus. Perhaps generically distinct from *Neoherminia*.

PALTHIS.

Palthis, Hübner, Verz. bek. Schmett. p. 342 (1816); Walker, Cat. xvi. p. 151, & xix. p. 886.
Clanyma, Guenée, Sp. gén. des Lép. viii. p. 94.

Walker included nine species in this genus, five of them with doubt. From our region we have received examples of five species.

1. **Palthis spectalis.**

Clanyma spectalis, Guen. Sp. gén. des Lép. viii. p. 95, Delt. et Pyral. t. 9. fig. 1 (♂)[1].
Palthis spectalis, Walk. Cat. xvi. p. 153[2].
Bertula insignalis, Walk. Cat. xvi. p. 246 (♂)[3].

Hab. MEXICO, Presidio de Mazatlan (*Forrer*), Jalapa (*coll. Schaus*); GUATEMALA, Purula, San Gerónimo, Dueñas (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Caché (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL[1 2].

Not uncommon in Central America. The female differs from the male in having the palpi simple, not tufted with hairs. The locality for *Bertula insignalis* was unknown to Walker[3].

2. **Palthis (?) pretusalis.**

Palthis (?) *pretusalis*, Walk. Cat. xvi. p. 155 (♂)[1].

Hab. HONDURAS (*Dyson*[1]).

This and the following species are only known to us by the types in the National Collection.

3. **Palthis (?) orasiusalis.**

Palthis (?) *orasiusalis*, Walk. Cat. xix. p. 886 (♂)[1].

Hab. HONDURAS (*Dyson*[1]).

4. **Palthis ——?**

Hab. MEXICO, Presidio de Mazatlan (*Forrer*)

Two specimens of a small species not in sufficiently good condition for identification.

5. **Palthis bizialis.** (Tab. XXXIX. figg. 14, 14 *a*, ♂; 15, ♀.)

Bleptina bizialis, Walk. Cat. xix. p. 865 (♂)[1].

Hab. MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Las Mercedes, Cerro Zunil, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Caché (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 6000 feet (*Champion*).—BRAZIL, Rio Janeiro[1].

Mr. Champion captured a large number of specimens of this species at San Agustin, on the slope of the Volcan de Atitlan, in December 1880. The type is now in the Oxford Museum; our specimens are almost identical with it.

NEOPALTHIS, gen. nov.

Male. Head and eyes small; the thorax rather broad; the abdomen slender, not extending beyond the wings, the anal tuft rather large; the antennæ somewhat short and thick, very finely pectinated; front legs small; hind legs elongate and slender, with the spurs long. Palpi with the first joint very small; the second joint long, rather flattened, and curved upwards; the third joint about half the length of the second, tufted with fine hairs. The primaries long, very pointed at the apex; the costal margin slightly concave about the middle; the outer margin straight, receding to the anal angle; the inner margin straight. The secondaries rather broad, rounded at the apex, and slightly angular at the anal angle.

The female similar to the male, but with the palpi very different in shape, the first two joints projecting straight out from the head; the third joint turned upwards and club-shaped, but very finely pointed at the tip, thickly clothed with large scales (not hairs).

Type *Neopalthis madates*.

1. **Neopalthis madates,** sp. n. (Tab. XXXIX. figg. 16, 16 *a*, ♂; 17, 17 *a*, ♀.)

Male. Primaries pale reddish-brown, crossed from the costal to the inner margin by three very fine waved white lines, the outer margin thickly irrorated with white scales, the marginal line with small black points, a large white dot at the end of the cell, and a curved white line crossing the wing close to the apex from the costal to the outer margin, the fringe white; secondaries paler in colour than the primaries, and crossed below the middle by two narrow zigzag white lines, the apex and outer margin thickly irrorated with white scales, the fringe brownish-white; the underside darker brown, with the white markings very similar to those above: head, thorax, and abdomen pale brown, the segments of the abdomen banded with white, the antennæ pale brown; the palpi brown, the tuft of hairs slightly yellowish; the fore legs brown, the hind legs whitish. The female similar to the male, but generally larger, and with the palpi very differently formed and dark brown in colour. Expanse, ♂ 1, ♀ $1\frac{3}{10}$ inch.

Hab. MEXICO, Coatepec (*coll. Schaus*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Mr. Champion captured a large series of this very distinct species "at light" in Chiriqui. A single specimen from Mexico in Mr. Schaus's collection differs from all the others in having the veins white between the white lines on the primaries.

BERTULA.

Bertula, Walker, Cat. xvi. p. 162 (1858), & xxxiv. p. 1167 (1865).

Amongst the numerous species included by Walker in this genus four only are from

Tropical America; but it is quite possible that when the American representatives are better known it will be found that they are not congeneric with those from the Old World. Two are now recorded from our region, one of which is described as new.

1. **Bertula talausalis.** (Tab. XXXIX. figg. 18, 18 *a*, ♂; 19, ♀.)

Bertula talausalis, Walk. Cat. xvi. p. 168 (♂)[1].

Hab. GUATEMALA, San Isidro 1600 feet, Zapote (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).—VENEZUELA[1]; ECUADOR.

In some examples the pale outer margin of the primaries is much more distinct than in others. Our figures are taken from Guatemalan specimens.

2. **Bertula lycas,** sp. n. (Tab. XXXIX. figg. 20, 20 *a*, ♂.)

Male. Primaries rich dark reddish-brown, the outer margin from the apex to the anal angle broadly bordered with pale brownish-fawn-colour, the inner edge of the pale band very deeply waved and edged with a faint black line; secondaries dusky brown, paler near the base, a narrow white line near the anal angle; the fringe of both wings fawn-colour; the underside dusky brown, that of the secondaries crossed about the middle by a dark brown line: head and thorax dark reddish-brown, the abdomen dusky brown, the fore legs yellowish-brown, the hind legs dark brown; the palpi dark brown on the outer side, pale yellowish-brown on the inner side, the tuft of hairs very dark brown. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

One male specimen. Allied to *B. talausalis*, Walk., from the corresponding sex of which it may be at once distinguished by its smaller size, richer colour, more distinct pale marginal band on the primaries, and considerably smaller and much darker palpi.

BOCANA.

Bocana, Walker, Cat. xvi. p. 170 (1858).

Walker gives *B. manifestalis* (♀), from Ceylon, as the type of this genus, at the same time including in it numerous species from very widely separated localities. He divided the genus into four groups, placing the two South-American species at the end of the fourth. *Bocana* appears to be well represented in Central America, whence eleven species are now recorded.

1. **Bocana pharusalis.** (Tab. XXXIX. figg. 21, 21 *a*, ♂.)

Bocana pharusalis, Walk. Cat. xvi. p. 185 (♂ ♀)[1].

Hab. MEXICO, Presidio de Mazatlan (*Forrer*), Amula in Guerrero 6000 feet (*H. H. Smith*); BRITISH HONDURAS, Belize (*Blancaneaux*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA[1].

A rather common insect in our region.

2. **Bocana malis,** sp. n. (Tab. XXXIX. fig. 22, ♀.)

Female. Primaries rich dark brown, the costal margin edged with white, the outer margin broadly banded with greyish-white from near the apex to the anal angle, the outer edge of the band dusky, the marginal line black, the fringe brown; secondaries dull brown, paler at the base and along the costal margin to the apex, a small greyish-white band near the anal angle, this band not extending halfway to the apex; the underside pale brown, irrorated with greyish scales near the base, a submarginal waved white line partly crossing the primaries from the apex but not extending more than halfway to the anal angle, and a white line crossing the secondaries from the apex to the anal angle: head in front and the base of the antennæ white, the rest of the head and the thorax dark brown, the abdomen pale brown; the first and second joints of the palpi dark brown, the third joint white; the legs brown, banded with white. Expanse $1\frac{1}{4}$ inch.

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

Allied to *B. pagasusalis*, Walk., but easily distinguished from it by the costal margin of the primaries being white (instead of yellow), the primaries themselves darker in colour and with a whiter outer border. I have only seen two female specimens of this species, both of which are contained in Dr. Staudinger's collection.

3. **Bocana theroalis.** (Tab. XXXIX. fig. 23, ♀.)

Bleptina theroalis, Walk. Cat. xvi. p. 243 (♀)[1].

Hab. Panama, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).—Venezuela[1].

Two specimens, both females, have been received from Chiriqui; they are almost identical with the type. The male is unknown.

4. **Bocana pagasusalis.** (Tab. XXXIX. figg. 24, 24 *a*, ♂; 25, ♀.)

Bleptina pagasusalis, Walk. Cat. xix. p. 870 (♂)[1].

Hab. Mexico, Jalapa (*Höge*); Guatemala, Senahu, San Gerónimo (*Champion*); Costa Rica, Rio Sucio, Volcan de Irazu 6000 to 7000 feet (*Rogers*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—Ecuador; Brazil, Rio Janeiro[1].

The long series of specimens before me from Central America show a considerable amount of variation, both in colour and in the width of the pale line along the costal and outer margins of the primaries, this line in some of the females being almost obsolete. The type of *B. pagasusalis* is now in the Oxford Museum. Our figures are taken from Costa Rican specimens.

5. **Bocana lyse,** sp. n. (Tab. XXXIX. figg. 26, 26 *a*, ♂.)

Male. Primaries yellowish-brown, crossed from the costal to the inner margin by very fine darker brown lines, a minute dot in the cell and a mark at the end of it greyish, a large greyish-white spot on the outer margin just below the apex, from which two greyish waved lines extend to the anal angle, the fringe yellowish-brown; secondaries uniform dull brown, the fringe brown; the underside brown, that of the secondaries crossed about the middle by a darker brown line: head and thorax yellowish-brown; the abdomen dull brown, the anal tuft yellowish-brown; the antennæ and legs dark brown; the palpi dark brown, the third joint tufted with pale yellowish-brown hairs. The female very similar to the male, but generally paler in colour and without any tuft of hairs on the palpi. Expanse, ♂ $1\frac{4}{10}$, ♀ $1\frac{1}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 4000 feet (*Champion*).

Our figure is taken from a male specimen captured by Mr. Champion on the Volcan de Chiriqui.

6. **Bocana antorides,** sp. n. (Tab. XXXIX. figg. 27, 27 *a*, ♂.)

Male. Primaries almost uniform pale brown, a greyish-white streak at the end of the cell, and a submarginal similarly coloured waved line extending from the costal to the inner margin, the fringe dark brown; secondaries dusky brown, with the fringe rather darker: head, thorax, and abdomen brown; the antennæ, palpi, and legs dark brown. The female similar to the male, but with the palpi simple. Expanse, ♂ ♀, $1\frac{1}{2}$ inch.

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Closely allied to *B. lyse*, but distinguished by its darker colour and by the entire absence of the large grey spots on the outer margin of the primaries close to the apex.

7. **Bocana (?) anteros,** sp. n. (Tab. XL. figg. 1, 1 *a*, ♂.)

Male. Primaries yellowish-brown, crossed from the costal to the inner margin by three very narrow waved greyish-white lines—the first near the base, the second just beyond the cell, both faint, the third submarginal and much more distinct,—a greyish crescent-shaped mark at the end of the cell, and a marginal row of white spots with black points extending from the apex to the anal angle, the fringe alternately brown and white; secondaries dull brown, with marginal spots as on the primaries but much more indistinct: head, thorax, and abdomen brown; the palpi brown, edged with white on the inner side; the antennæ brown, white on the inner side to about the middle, where they are tufted with dark brown hairs; the legs pale brown, the fore tarsi white. The female very similar to the male, but rather paler in colour, and with simple antennæ and palpi. Expanse, ♂ ♀, $1\frac{1}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 4000 feet (*Champion*).

Our figure of the male is taken from a specimen in Dr. Staudinger's collection. Mr. Champion only met with a single female example.

8. **Bocana lycaste,** sp. n. (Tab. XXXIX. figg. 28, 28 *a*, ♂; 29, ♀.)

Male. Primaries very dark brown, pale yellowish-brown at the base, a faint yellowish-brown line crossing the wing beyond the middle from the costal to the inner margin, and a greyish-white spot on the outer margin just below the apex; secondaries dull brown, slightly paler at the base; the fringe of both wings dark brown: head, thorax, palpi, antennæ, and legs dark brown, the abdomen paler brown. The female very similar to the male, but generally with the base of the wings dark brown, the palpi simple. Expanse, ♂ $1\frac{3}{10}$, ♀ $1\frac{1}{10}$ inch.

Hab. MEXICO, Jalapa (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet, Zapote (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A common and variable insect in our region. In some specimens the base of the primaries is pale yellowish-brown, in others quite dark brown; the greyish-white spot

on the outer margin is entirely obsolete in some examples, shows slightly in others, and is very distinct in those figured. The female specimen from Jalapa in Mr. Schaus's collection is the darkest we have seen.

9. **Bocana maia,** sp. n. (Tab. XL. figg. 2, 2 *a*, ♂.)

Male. Primaries and secondaries uniform dark blackish-brown, with a greyish shade round the outer margin; the primaries crossed from the costal to the inner margin by three very narrow dark brown waved lines —the first close to the base, the second beyond the cell, the third submarginal—and between the first and second of these by a dark brown band; the secondaries crossed about the middle from the costal to the inner margin by an indistinct rather wide dark brown band; the fringe of both wings dark brown; the underside brown, not quite so dark in colour as the upperside, and without markings of any kind: head, antennæ, thorax, abdomen, and legs dark brown; the palpi brown, with the tuft of hair pale brown. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

We have received three males of this dark-coloured species. Dr. Staudinger's Chiriqui specimen is larger than any of them. A male from Teapa is figured.

10. **Bocana (?) arbona,** sp. n. (Tab. XL. fig. 3, ♀.)

Female. Primaries and secondaries dull blackish-brown, slightly irrorated with grey; the primaries crossed from the costal to the inner margin by three dark brown waved lines and also with a submarginal greyish line, a pale yellowish-brown streak at the end of the cell; the secondaries with a submarginal greyish line like that of the primaries; the marginal line of both wings black with white points, the fringe dark blackish-brown; the underside considerably paler than above, and with the submarginal lines whiter: head, thorax, abdomen, antennæ, and palpi dark brown, the legs pale brown. Expanse $\frac{3}{4}$ inch.

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Pantaleon 1700 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

The specimens we have received of this insect appear to be all females. Those captured at Teapa by Mr. Herbert Smith during the months of January and April, 1888, do not differ from the Costa Rican examples. Our figure is taken from one of the former.

11. **Bocana (?) marpesia,** sp. n. (Tab. XL. fig. 4, ♀.)

Female. Primaries dull brown with a grey tinge, a minute white dot in the middle of the cell and a small white line at the end of it, and four dark brown lines crossing the wing from the costal to the inner margin, the fourth line broad and edged with paler colour, the marginal line black with pale brown points, the fringe brown; secondaries darker in colour than the primaries, and partly crossed from the anal angle and inner margin by darker brown waved lines; the underside uniform dark brown, both wings crossed about the middle by a darker brown waved line: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse $1\frac{1}{10}$ inch.

Hab. GUATEMALA, Zapote (*Champion*).

Two specimens, both females. This and the preceding species will most likely require to be placed in a different genus as soon as the males are known.

MARGITES, gen. nov.

Male. Head small, the thorax broad, the tegulæ long; the abdomen moderately stout, extending slightly beyond the wings. Palpi porrect, very thickly clothed with large scales; the first joint small; the second joint extending beyond the eyes; the third joint very broad, turned back over the head and tufted with rather long hairs. Antennæ about half the length of the primaries, fine, and very slightly pectinated. Fore legs long, densely covered with hairs; the middle and hind legs slender. The primaries long and narrow; the costal margin straight almost to the apex, where it is slightly rounded; the outer margin very angular in the middle; the inner margin straight. The secondaries rather long, angular on the outer margin, much rounded at the anal angle. The fringe of both wings rather long.

Type *Margites bugaba.*

Allied to *Bocana*, but separable therefrom in the male sex by the very different form of the palpi and by the angular outer margin of the primaries.

1. **Margites bugaba,** sp. n. (Tab. XL. figg. 5, 5 *a*, ♂.)

Male. Primaries brown with a purplish shade, with three faint darker brown lines crossing from the costal to the inner margin, a large greyish spot at the end of the cell, and a number of greyish-white spots at the apex and along the outer margin, the fringe brown; secondaries dull brown, lighter along the costal margin, the outer margin with white points; the underside pale greyish-brown, both wings crossed beyond the middle by a narrow darker brown line: head, thorax, and palpi dark purplish-brown, the tuft of hair on the latter very pale yellowish-brown, the abdomen dull brown, the legs brown. Expanse $1\frac{4}{10}$ inch.

Hab. PANAMA, Bugaba 800 to 1500 feet (*Champion*).

Very distinct from any other Deltoid known to me. The two specimens received appear to be both males; one, unfortunately, is in a very damaged condition, having lost the palpi and abdomen.

ARGANIA, gen. nov.

Male. Head small, the thorax somewhat broad, the tegulæ short; the abdomen stout, not extending beyond the wings. Palpi slender; the first joint short; the second joint long, reaching the top of the head; the third joint about the length of the second, slightly tufted with fine hairs. Antennæ simple, about half the length of the primaries. Legs rather short and stout. The primaries moderately long; the costal margin sharply arched close to the base, then nearly straight to the apex, thickly tufted with long scales from the base to near the middle; the outer margin rounded to the anal angle; the inner margin quite straight. The secondaries rather long and broad, considerably rounded from the apex to the anal angle; the inner margin straight.

The female differs from the male in having the costal margin of the primaries quite straight and without tuft of scales, and the palpi small.

Type *Argania pilosa.*

This curious genus is quite unlike any other Deltoid known to me. In the shape of the primaries of the male it very closely resembles *Symmachia* in the Lemoniinæ.

1. **Argania pilosa,** sp. n. (Tab. XL. figg. 6, 6 *a*, ♂; 7, ♀.)

Male. Primaries yellowish-brown, with a large tuft of long scales on the costal margin, a grey streak on the outer margin below the apex, and several indistinct grey spots near the anal angle, the marginal line and the fringe greyish; secondaries rather darker in colour than the primaries, very thickly clothed with brown scales about the middle: head, thorax, abdomen, and legs brown, the palpi and antennæ pale yellowish-brown. The female altogether darker in colour; the primaries with two very faint brown lines crossing from the costal to the inner margin, and the grey lines and spots on the outer margin more distinct. Expanse, ♂ ♀, $1\frac{3}{10}$ inch.

Hab. GUATEMALA, Cerro Zunil 4000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

The female of this species is very similar to the corresponding sex of *Bocana* (?) *anteros*, from Chiriqui; but the males are very distinct. We figure both sexes.

HYPOECHANA, gen. nov.

Male. Head and thorax small; the abdomen slender, not extending beyond the wings. Palpi covered with hairs; the first joint small; the second joint three times the length of the first; the third joint small and pointed. Antennæ rather more than half the length of the primaries, very slightly pectinated, and tufted in the middle. Legs slender. The primaries with the costal margin slightly curved near the base, then straight to the apex; the outer margin rounded from the apex to the anal angle; the inner margin straight; on the costal margin about the middle is a large tuft of long scales, this being curved backwards over the wing and almost covering the end of the cell. The secondaries large; the outer margin rounded from the apex to the anal angle; the inner margin straight, and clothed with rather long hairs.

Type *Hypoechana fuliginosa*.

1. **Hypoechana fuliginosa,** sp. n. (Tab. XL. fig. 8, ♂.)

Male. Primaries brown, crossed before the middle from the costal to the inner margin by a wide darker brown band, this being edged on each side with a narrow black line, and beyond the band from the middle to the inner margin much paler in colour, the tuft of long scales on the costal margin dark blackish-brown, the outer margin with black points; secondaries dull blackish-brown, paler along the costal margin, a faint dark brown line crossing the wing about the middle from the costal to the inner margin, and a faint submarginal yellowish-brown line extending from the apex almost to the anal angle, where it is much more distinct, the outer margin with black points; the fringe of both wings dark brown; the underside greyish-brown, almost without markings: head, thorax, abdomen, antennæ, palpi, and legs dark brown. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Coatepec (*coll. Schaus*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Varies considerably in colour, Panama specimens being paler than those from Mexico.

ARIPHRADES, gen. nov.

Male. Head small, the eyes very prominent; the thorax narrow; the abdomen slender, extending slightly beyond the wings. Palpi large, porrect, thickly clothed with long hairs; the first joint small; the second joint long and broad; the third joint very small. Antennæ rather thick, slightly pectinated, and tufted beyond the middle (the apical portion wanting). Legs short and stout, the fore pair covered with hair. The primaries long, rather broad from the apex to the anal angle; the costal margin almost straight, but a little rounded at the apex; the outer margin slightly rounded; the inner margin straight; between the end of the cell and the outer margin is a tuft of long scales that almost reaches the outer margin. The secondaries rather long and narrow; the costal margin straight; the outer margin very angular; the inner margin and the abdominal fold thickly covered with fine hair.

Type *Ariphrades setula*.

1. **Ariphrades setula,** sp. n. (Tab. XL. figg. 9, 9 *a*, ♂.)

Male. Primaries and secondaries uniform pale brown; the primaries crossed about the middle from the costal to the inner margin by a narrow dark brown band, a black spot at the end of the cell, a large elongated tuft of pale brown scales just beyond it, and a submarginal indistinct waved greyish-brown line extending from the costal margin close to the apex to the inner margin, the marginal line dark brown; the fringe of both wings brown; the underside paler brown, that of the secondaries crossed below the middle by two faint brown lines: head, thorax, and abdomen brown; the antennæ paler brown, with the tuft blackish-brown; the palpi brown, with some greyish scales on the second joint: the legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Caldera in Chiriqui (*Champion*).

This species is not very closely allied to any other Deltoid known to me; the tuft of long scales at the end of the cell on the primaries in the male at once distinguishes it. One specimen only, a male, was captured by Mr. Champion.

IPNEA.

Ipnea, Walker, Cat. xvi. p. 190 (1858).

Walker founded this genus upon a female insect from Pará. Of one of the species now added we have specimens of both sexes.

1. **Ipnea marina,** sp. n. (Tab. XL. fig. 10, ♂.)

Male. Primaries pale yellowish-brown, crossed from the costal to the inner margin by numerous waved darker brown lines, two only of which (one near the base, the other beyond the end of the cell) are well defined, a row of three black spots extending from the anal angle towards the apex, and beyond them in a line are two very minute black dots on the costal margin close to the apex, the marginal line with black points, the fringe dark brown; secondaries dull brown, with an indistinct spot in the cell, and a narrow line crossing the middle of the wing from the costal to the inner margin, the fringe greyish-brown; the underside paler than above, that of the primaries clouded with darker brown: head, thorax, palpi, and antennæ pale yellowish-brown; the abdomen dark brown, with the anal tuft yellowish-brown; the legs pale brown. The female very similar to the male, but generally paler in colour. Expanse, ♂ ♀, $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Quiche Mountains 7000 to 9000 feet, Panajachel 5000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—ECUADOR, Loja.

This species varies considerably in colour, some examples being much darker than others. A specimen from Ecuador in M. Dognin's collection resembles the darker individuals from Guatemala.

2. **Ipnea ardalus,** sp. n. (Tab. XL. fig. 11, ♀.)

Female. Primaries and secondaries uniform dark brown, the primaries with an elongate broad orange-coloured band on the inner margin which does not reach the base or the anal angle, the fringe of both wings dark brown; the underside uniform pale brown, without any markings: head, thorax, abdomen, palpi, antennæ, and legs brown. Expanse $1\frac{3}{4}$ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

One specimen.

3. **Ipnea (?) mapeta,** sp. n. (Tab. XL. fig. 12.)

Primaries very pale fawn-colour, thickly irrorated with yellowish-brown scales, the costal margin from the base to near the apex edged with yellowish-brown, and crossed from the costal to the inner margin by three faint waved yellowish-brown lines—the first near the base, the second about the middle, and the third beyond the cell,—a submarginal waved greyish line extending from near the apex to the inner margin close to the anal angle, the marginal line with black points; secondaries pale fawn-colour, the base and the inner margin pale yellow; the fringes of both wings brownish-fawn-colour; the underside pale yellowish-fawn-colour, without markings of any kind: head and front of the thorax yellowish-brown, the rest of the thorax and the tegulæ fawn-colour, the abdomen and legs yellow, the antennæ pale brown, the palpi dark brown. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

A few specimens. This insect appears to be allied to *Ipnea*, but the palpi are more slender and the outer margin of the primaries is more rounded; I only include it provisionally in this genus.

DIDUGUA, gen. nov.

Female. Head large, the eyes prominent, the thorax broad; the abdomen stout, not extending beyond the wings. Palpi long, slender, and porrect, clothed with rather long scales; the first joint small, the second joint long, the third joint more than half the length of the second. Antennæ rather short, quite simple. Legs slightly thickened. The primaries long and broad, with the costal and inner margins straight, the outer margin nearly so, but slightly rounded at the anal angle; secondaries with the costal and inner margins almost straight, the outer margin rounded at the anal angle; the fringe of both wings rather long.

Type *Didugua argentilinea.*

The species for which this new genus is proposed has, at first sight, much the appearance of a Noctuid, but the form of the palpi at once shows that it is more closely allied to the Deltoides; its true position in the latter is, however, very doubtful, the only specimens before me being females.

1. **Didugua argentilinea,** sp. n. (Tab. XL. fig. 13, ♀.)

Female. Primaries brown, darker along the middle from the base almost to the outer margin, a silvery-white notched streak extending from near the base almost to the outer margin, the outer margin with two fine lines extending from the apex to the anal angle, the fringe dark brown; secondaries brown, darker round the outer margin from the apex to the anal angle, the fringe pale brown; the underside uniformly pale brown, without markings of any kind: head, thorax, and abdomen dark brown, the antennæ and palpi yellowish-brown, the legs brown. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, in the city at the electric light (*Rodriguez*), San Gerónimo (*Champion*).

Our figure is taken from the San Gerónimo specimen. The example from Guatemala city is slightly larger and also darker in colour.

PŒNA, gen. nov.

Male. Head small, the thorax and abdomen slender, the latter extending beyond the wings. Palpi small, very short, porrect; the first joint small, the second joint large, the third joint very small. Antennæ rather long, more than half the length of the primaries. Legs short, thickly clothed with hairs. The primaries long and narrow, with the costal and inner margins quite straight, the apex pointed, and the outer margin

slightly rounded to the anal angle; the secondaries rather narrow, and rounded near the anal angle; the fringes of both wings long.

Type *Hypena porrectalis*, Guen.

1. **Pœna porrectalis?** (Tab. XL. fig. 14.)

Phalæna porrectalis, Fabr. Ent. Syst. iii. 2, p. 223.

Hypena porrectalis, Guen. Sp. gén. des Lép. viii. p. 37 (♂)[1]; Walk. Cat. xvi. p. 46 (♀)[2].

Hab. Mexico, Teapa in Tabasco (*H. H. Smith*); Guatemala, San Isidro 1600 feet, Pantaleon 1700 feet (*Champion*); Panama, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—Venezuela[2]; Guiana, Cayenne[1]; Amazons, Ega[2]; Brazil[1].

This insect varies considerably in size and colour. Our specimens are almost identical with those named *Hypena porrectalis* in the National Museum; but I do not feel quite certain that they belong to the species described by Guenée, not having seen the type.

2. **Pœna tessellata,** sp. n. (Tab. XL. fig. 15.)

Primaries brown, shaded with darker brown about the middle, crossed from the costal to the inner margin by several waved narrow pale lines, and with two small brown spots close to the apex, the marginal line pale brown with black points, the fringe brown; secondaries dull brown, crossed about the middle from the costal to the inner margin by a faint brown line, the fringe brown: head, thorax, and abdomen dark brown, the antennæ and legs pale brown (the palpi wanting). Expanse 1½ inch.

Hab. Costa Rica, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

The single specimen received is without palpi, and is apparently of the female sex; but in general form and in the length of the antennæ it closely resembles *P. porrectalis*.

3. **Pœna (?) albomarginata,** sp. n. (Tab. XL. fig. 16, ♀.)

Female. Primaries very pale brown, broadly bordered from the apex to the anal angle with greyish-white, a small black spot at the end of the cell, beyond which a curved row of very minute blackish dots crosses the wing from the costal to the inner margin, the marginal line with black dots, the fringe greyish-white; secondaries uniform dull brown, with the fringe slightly paler: head, thorax, abdomen, antennæ, palpi, and legs pale brown. Expanse 1¼ inch.

Hab. Mexico, Jalapa (*coll. Schaus*); Guatemala, San Gerónimo (*Champion*).

Two examples. These somewhat resemble small specimens of *P. porrectalis*, but they have the outer margin of the primaries straighter. The Guatemalan example is figured.

LEDÆA.

Legna, Walker, Cat. xxxiii. p. 1102 (1865) (nomen præocc.).

Walker founded this genus upon the male of an insect said to have come from Georgia, but it is not included by Grote in his 'Check-List of North-American Moths.'

The generic name *Legna* has been used by Walker three times—in Coleoptera,

Lepidoptera, and Orthoptera, that in Coleoptera having the priority. Two new species from our region are added to the genus, and a third is included with considerable doubt.

1. **Ledæa arduine,** sp. n. (Tab. XL. figg. 17, 17 *a*, ♂; 18, ♀.)

Male. Primaries and secondaries pale brownish-cream-colour; the primaries crossed beyond the middle from the apex to the centre of the inner margin by a dark brown line edged on the outer side with a fine somewhat yellowish line, a dark brown streak partly crossing the wing from the inner margin before the middle, a small black dot at the base, one in the middle of the cell, and two at the end of it, and between the brown line and the outer margin two very faint narrow waved lines which extend from the apex to the inner margin; the secondaries crossed by four faint lines, those nearest the base not reaching the costal margin, and with a black spot in the cell; the marginal line of both wings with black points, and the fringe cream-colour: head, thorax, and abdomen slightly darker in colour than the wings, the palpi, antennæ, and anal tuft yellowish-brown, the legs pale brown. The female very similar to the male, but with all the markings very indistinct. Expanse, ♂ ♀, $1\frac{3}{10}$ inch.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

In the form of the palpi this species closely resembles *Legna semilineata*, Walk.

2. **Ledæa marcella,** sp. n. (Tab. XL. fig. 19, ♂.)

Male. Primaries deep yellowish-fawn-colour, a dark brown streak partly crossing the wing towards the outer margin from the inner margin close to the base, and a dark brown line extending from the apex to the inner margin, the wing beyond this line nearly to the outer margin of a much darker brown; secondaries blackish-brown, excepting at the anal angle and round the outer margin; the underside pale yellowish-brown, both wings crossed beyond the middle by a dark brown line and with a brown spot at the end of the cell: head, thorax, palpi, and antennæ yellowish-fawn-colour; the abdomen blackish-brown, the anal tuft yellowish-brown; the legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Allied to *L. arduine*, from which it may be at once distinguished by the different colour and by the position of the lines crossing the primaries. One specimen.

3. **Ledæa (?) arciva,** sp. n. (Tab. XL. fig. 20.)

Primaries dull yellowish-brown, crossed by two or three very indistinct brown lines, a small black dot at the end of the cell and the marginal line with black points; secondaries darker in colour than the primaries; the fringe of both wings yellowish-brown; the underside dusky brown, without markings: head, thorax, and abdomen brown, the palpi, antennæ, and legs dark brown. Expanse $1\frac{1}{2}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

This insect is only provisionally placed in the genus *Ledæa*. The primaries are much more rounded than in the preceding species, and the secondaries are slightly angular; the palpi are similarly formed.

RHESCIPHA.

Rhescipha, Walker, Cat. xxxiv. p. 1194 (1865).

This genus was founded by Walker upon a female example of an insect obtained by Mr. Wallace in Brazil; we have received two specimens of the same sex of this species from Mexico.

1. **Rhescipha obtusa.** (Tab. XL. figg. 21, 21 *a*, ♀.)

Rhescipha obtusa, Walk. Cat. xxxiv. p. 1195 (♀)[1].

Hab. Mexico, Jalapa (*Höge*), Coatepec (*Brooks*).—Brazil[1].

The two specimens from our region do not differ from the type in the National Museum. Our figure is taken from the Jalapa example.

OROSCOPA, gen. nov.

Female. Head small, the thorax broad; the abdomen stout, extending slightly beyond the wings. Palpi: the first joint quite small; the second joint long, rather flat; the third joint nearly as long as the second, very finely pointed, and with a small tuft of scales about the middle. Antennæ simple, about half the length of the primaries. Legs long and slender, the spurs on the hind tibiæ very long. The primaries long and narrow; the costal margin almost straight; the outer margin angular and deeply dentated; the inner margin curved, forming a small lobe at the apex. The secondaries long and rather narrow; the costal margin slightly concave from the base to about the middle, then angular to the apex; the outer margin deeply dentated; the inner margin much rounded at the anal angle, and clothed with long hairs.

Type *Oroscopa concha*.

This genus is not closely allied to any other Deltoid known to me.

1. **Oroscopa concha,** sp. n. (Tab. XL. figg. 22, 22 *a*, ♀.)

Female. Primaries pale greyish-fawn-colour, crossed from the costal to the inner margin beyond the middle by several very broken curved brown lines, the outer part of the wing being very thickly irrorated with brown scales, a whitish spot at the end of the cell, the marginal line with black and white points, the fringe pale brown; secondaries pale greyish-fawn-colour, thickly irrorated with brown scales, a waved line of small brown dots crossing the wing about the middle from the costal to the inner margin, and a rather dark brown dot at the end of the cell; the underside of both wings heavily marked with dark brown blotches: head, thorax, and abdomen pale greyish-fawn-colour, the antennæ and palpi darker brown, the legs pale greyish-brown. Expanse $1\frac{1}{2}$ inch.

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

We have only seen one specimen of this curious species. In some respects it slightly resembles certain Geometridæ; but the form of the palpi at once shows that it does not belong to that family.

2. **Oroscopa punctata,** sp. n. (Tab. XL. fig. 23.)

Primaries and secondaries very pale greyish-brown, thickly irrorated with darker brown scales, a dark brown patch on the outer margin of the primaries just below the apex, the secondaries with a brown spot at the end of the cell: head, thorax, and abdomen the same colour as the wings, the antennæ, palpi, and legs pale whitish-brown. Expanse 1 inch.

Hab. Panama, Chiriqui (*Ribbe, in mus. Staudinger*).

One worn example only.

3. **Oroscopa ——?**

Hab. Guatemala, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

One specimen, not in sufficiently good condition for identification or description.

SORYGAZA.

Sorygaza, Walker, Cat. xxxiv. p. 1181 (1865).

This genus was founded by Walker on the male of a Venezuelan insect. Numerous species are here added to it from Central America, where Walker's species, *S. didymata*, also occurs.

1. **Sorygaza didymata.** (Tab. XL. fig. 24.)

Sorygaza didymata, Walk. Cat. xxxiv. p. 1181 (♂)[1].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA[1].

The specimens from Chiriqui in Dr. Staudinger's collection are almost identical with Walker's type, which is now in the Oxford Museum.

2. **Sorygaza area,** sp. n. (Tab. XL. fig. 25, ♀.)

Female. Primaries and secondaries pure white; the primaries crossed about the middle by a rather wide waved brown band, and with a small brown spot at the base and one on the costal margin close to the apex; the secondaries irrorated with brown scales at the apex and round the outer margin; the underside white, very thickly irrorated with brown scales: head, thorax, abdomen, and legs white, the palpi and antennæ pale brown. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

This little species is allied to *S. didymata*, Walk., but it is very different in colour and markings.

3. **Sorygaza mardia,** sp. n. (Tab. XL. fig. 26, ♀.)

Female. Primaries pale grey, crossed from the costal to the inner margin by two dark brown lines—the first near the base, the second about the middle,—beyond which are two very indistinct waved whitish lines, the fringe pale grey; secondaries pale grey, but rather darker than the primaries, partly crossed below the middle by an indistinct whitish line; the underside pale greyish-brown, slightly irrorated with darker brown scales: head, thorax, abdomen, and legs pale grey, the antennæ and palpi dark grey. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

4. **Sorygaza arbela,** sp. n. (Tab. XL. fig. 27, ♀.)

Female. Primaries white, crossed about the middle from the costal to the inner margin by a wide brown band edged on both sides with a fine waved black line, and with several indistinct brown markings near the apex and along the outer margin, the marginal line with black points, the fringe pale brown; secondaries pale brownish-white, paler at the base, two white lines partly crossing the wing from the anal angle; the underside of both wings white, thickly irrorated with brown scales: head, thorax, abdomen, and legs pale brownish-white, the antennæ and palpi pale brown. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

A very distinct species. The primaries are slightly rounded on the outer margin.

5. **Sorygaza armasata,** sp. n. (Tab. XL. fig. 28, ♀.)

Female. Primaries cream-colour, crossed from the costal to the inner margin beyond the middle by a narrow pale yellowish-brown band, beyond which is a submarginal waved white line partly edged on the inner

side with a narrow broken brown line, the apex and outer part of the wing irrorated with yellowish-brown scales, two minute brown dots at the end of the cell, the fringe cream-colour; secondaries almost pure white, excepting round the outer margin, which is cream-colour, thickly irrorated with brownish-yellow scales, the fringe cream-colour; the underside of both wings almost white, with the costal and outer margins broadly bordered with pale yellowish-brown: head, thorax, abdomen, legs, palpi, and antennæ pale cream-colour. Expanse 1 inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

6. **Sorygaza manto,** sp. n. (Tab. XLI. fig. 1, ♀.)

Female. Primaries and secondaries very pale brownish-white, crossed from near the apex to the middle of the inner margin by a rather wide pale brown band, on the outer side of which are two brown spots, the marginal line with black spots; secondaries crossed about the middle by a dark brown line, and with two dark brown spots in the cell, the outer half of the wing crossed by very fine indistinct lines: head, thorax, and abdomen pale brownish-white, the antennæ almost white, the palpi very pale brown, the legs white. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

7. **Sorygaza (?) argandina,** sp. n. (Tab. XLI. fig. 2, ♀.)

Female. Primaries and secondaries pale brownish-white, irrorated with brown scales, both wings crossed beyond the middle by an indistinct brown band, a narrow whitish waved submarginal line extending from the apex to the anal angle of the primaries; the underside much the same colour as the upperside, but not so much irrorated with brown scales: head, thorax, abdomen, palpi, antennæ, and legs pale brownish-white. Expanse $\frac{3}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Two specimens of this little species are contained in Dr. Staudinger's collection. It hardly belongs to the genus *Sorygaza*, the outer margin of the primaries being rounded and not angular as in that genus; the palpi, however, are very similarly formed.

8. **Sorygaza (?) judicatalis.** (Tab. XLI. fig. 3, ♀.)

Megatomis (?) *judicatalis*, Walk. Cat. xix. p. 882 (♀)[1].

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ANTILLES, San Domingo[1].

One specimen, a female, nearly agreeing with Walker's type in the National Museum. The species is entirely distinct from *Megatomis*, in which genus Walker placed it with doubt; it seems to be much more closely allied to *Sorygaza*.

9. **Sorygaza (?) marica,** sp. n. (Tab. XLI. fig. 4, ♀.)

Female. Primaries pale brown, the basal half (except the costal margin) pale yellowish-brown, a wide similarly-coloured band crossing from the costal to the inner margin above the anal angle, two narrow yellowish-brown lines also crossing the wing near the base, and two black dots at the end of the cell, the marginal line dark brown with black points, the fringe dark brown; secondaries the same colour as the primaries, and also with a wide band crossing them, a black dot at the end of the cell, the marginal line dark brown with black points; the underside very similar to the upperside, but considerably paler in

colour, and with all the bands very indistinct: head, thorax, abdomen, palpi, antennæ, and legs pale yellowish-brown, the collar and base of the tegulæ dark brown. Expanse $1\frac{1}{10}$ inch.

Hab. GUATEMALA, San Gerónimo (*Champion*).

One specimen.

PLYNTERIA, gen. nov.

Male. Head small, the eyes very prominent; the thorax rather broad; the abdomen slender, not extending beyond the wings, the anal tuft small. Palpi long and slender; the first joint small, the second long, the third joint almost as long as the second, very slender and pointed. Antennæ slender, about half the length of the primaries, very slightly pectinated. Legs long, slender, and with the tibial spurs very elongate. The primaries rather short; the costal margin quite straight from the base to the apex; the inner margin straight; the outer margin very slightly rounded. The secondaries short, rather broad, and very much rounded from the apex to the anal angle; the costal and inner margins almost straight.

The female very similar to the male; but with the thorax and abdomen stouter, the latter considerably shorter, and the antennæ simple.

Type *Plynteria marginata*.

1. **Plynteria marginata,** sp. n. (Tab. XLI. figg. 5, 5 *a*, ♂; 6, ♀.)

Male. Primaries dull brown, the costal margin from the base to the apex broadly streaked with white, and crossed from the costal to the inner margin by two indistinct rows of very minute white dots, a small white dot at the end of the cell, the marginal line dark brown, the fringe paler brown; secondaries dull brown, and crossed by two lines of minute white dots, the marginal line dark brown, the fringe paler brown; the underside uniform pale brown, without markings of any kind: head, front of the thorax, and abdomen pale brown, the thorax crossed about the middle by a wide white streak, the anal tuft, the antennæ, palpi, and legs pale brown. The female very similar to the male, but of a darker and redder brown colour, and with the small white dots on the wings much more distinct. Expanse, ♂ ♀, 1 inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).

Our description and figures are taken from Dr. Staudinger's specimens; the only example captured by Mr. Champion is a female.

2. **Plynteria lineata,** sp. n. (Tab. XLI. figg. 7, 7 *a*, ♂.)

Male. Primaries and secondaries pale fawn-colour, the costal margin of the former broadly streaked with pinkish-white; both wings crossed from the costal to the inner margin by two narrow pinkish-white lines edged on the inner side with dark brown, and with a submarginal row of minute pale dots with dark brown points extending from the costal to the inner margin, the marginal line of each wing dark brown with black points; the fringe dark fawn-colour; the underside pale brown, that of the secondaries paler than the primaries and crossed in the middle by a darker brown line, both wings with a submarginal row of dots as above: head and collar dark reddish-brown; the thorax, abdomen, and legs fawn-colour, the front of the thorax streaked with pinkish-white; the antennæ brown; the palpi dark brown, the apex of the second joint annulated with white, the tip of the third joint also white. The female similar to the male but larger. Expanse, ♂ 1, ♀ $1\frac{1}{4}$ inch.

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Both sexes of this distinct species are contained in Dr. Staudinger's collection.

DIDA, gen. nov.

Male (?). Head and eyes small; the thorax and abdomen slender, the latter only extending very slightly beyond the wings. Palpi porrect, formed very much as in the genus *Hypena*; the first joint very small; the second joint long, rather flattened, and thickly clothed with scales; the third joint more than half the length of the second, finely pointed. (Antennæ broken, but the small part remaining appears to be simple.) Fore legs slender, with tufts of hair; (the hind legs wanting). The primaries rather long, narrow at the base, wide from the apex to the anal angle; the costal and inner margins straight; the apex pointed; the outer margin almost straight, but slightly rounded near the anal angle. The secondaries short, rather broad, and considerably rounded from the apex to the anal angle, the inner margin also rounded near the anal angle. The fringe long.

Type *Dida cidaria*.

1. **Dida cidaria**, sp. n. (Tab. XLI. fig. 8.)

Male (?). Primaries pale olive-brown, crossed from the costal to the inner margin by three waved darker brown lines—the first near the base, the second about the middle, the third almost submarginal,—the marginal line with dark brown points, the fringe dark olive-brown; secondaries very pale brown, slightly paler near the base; underside pale brown, both wings pinkish-brown round the margins: head, thorax, and abdomen pale olive-brown, the palpi and antennæ brown. Expanse $1\frac{1}{4}$ inch.

Hab. MEXICO, Las Vigas (*coll. Schaus*).

One specimen.